The OIL WEEKLY

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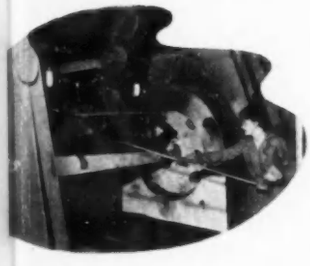

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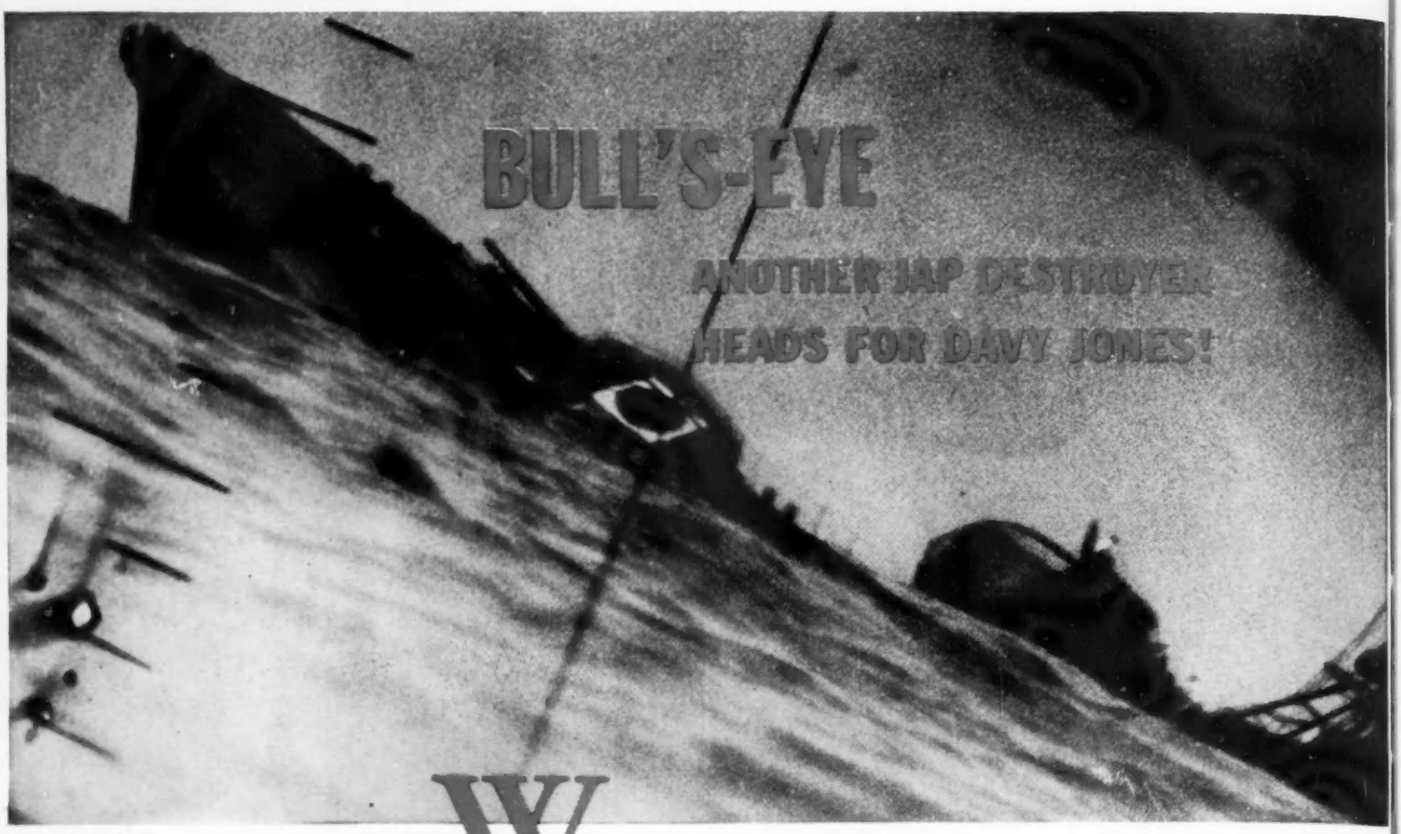

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for the drilling-producing-pipeline industry

PETROLEUM REFINER and The REFINERY CATALOG
for the refining-natural gasoline industry

LOOKING AHEAD
. . . with the Editor

THE oil industry goes to Chicago November 8 to 11, those who can journeying in person to the American Petroleum Institute's annual meeting, all others keeping eye and ear attuned to the happenings there. As a year ago, the theme of the meeting is "Oil Goes To War," with emphasis on the changes in the industry which have been made to align it with war demands. Protection of petroleum facilities, prime objective of the saboteur, will be accorded an entire session. Other sessions will cover refining and productiin phases of the industry, with secondary recovery marked for especial handling in a session devoted entirely to that subject.

Some 50 standing and special committees will meet concurrently with the Institute, aiding in clarification of questionable points and simplifying the handling of problems arising out of the industry's participation in the nation's war effort.

THE OIL WEEKLY, as usual, will be first to present complete coverage on this most important wartime gathering of oil men. A staff of six will report editorially on the proceedings, with concise summaries of all papers and important actions of the Institute to be presented in the issue of November 15.

THE OIL WEEKLY

ENGINEERING « NEWS » STATISTICS

Published by THE GULF PUBLISHING COMPANY, Houston, Texas

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The Changing Panorama

Hope for General Price Raise Gone

REJECTION of a 35-cent-a-barrel raise in the price of crude oil by Economics Stabilization Director Vinson just about destroys all prospects for a general increase in ceilings.

Of course, there is the chance that Congress may take action. Sufficient strength might be mustered in Congress to pass such measure. This is indicated by reports of the 11 investigating committees that have studied the oil situation during the past two years, and the unanimous decision of these groups that higher prices are needed. It is further indicated by the recent caucus meeting, at which 110 representatives were present, and their decision to fight for higher oil prices.

However, President Roosevelt can be expected to veto any specific bill designed to hike oil prices.

There is still the prospect that a crude price bill may be attached as a rider to some other legislative measure. Senator Thomas of Oklahoma has indicated he will make a move to attach a rider to the pending Commodity Credit Corporation bill. This bill, however, contains a blanket ban against food subsidies, and therefore faces a presidential veto. Consequently, its enactment appears remote already.

Vinson Gave the Ball to Ickes

WHEN Economic Stabilization Director Vinson flatly denied a general crude price raise, but suggested that other "incentives" and "financial support" for wildcat wells, stripper wells, and repressuring operations and handed the responsibility for formulating such programs to PAW Ickes, he may have avoided a bitter battle being directed against him. By giving no specific recommendations as to how these might be accomplished, he handed the ball to Ickes. It immediately became Ickes' problem and not his. Admittedly, it is a ticklish and complex problem.

So far as an incentive for encouraging additional wildcatting is concerned, the only method that appears open is direct subsidies. Although he did not say so, Vinson's report left little doubt but that he had a wildcat subsidy in mind. The industry is strongly opposed to any form of subsidy. Any subsidy plan embodies the danger of encouraging promoters to drill dry holes at the expense of the government. Vinson realized this danger, and again placed the burden squarely upon Ickes in instructing him to establish a program with a view of avoiding this situation. His only suggestion was that financial help be limited to those engaged in these activities! That is a plenty tough assignment. Besides the big companies, there is a substantial group of independents who engage in wildcat activities, but a very sizeable portion of the wildcats are drilled by newcomers to the industry and others who occasionally, but not consistently, drill wildcats. Nearly all independent operators commenced their oil operations by drilling a wildcat test.

Vinson's order did appear to give some hope for higher oil prices in stripper, secondary-recovery and high-cost areas, although the wording of his statement did not clearly indicate whether he had prices or subsidies in mind. It is probable that these operators will now seek separate price relief, and zone price hikes may possibly be obtained. However, again it is Ickes' problem to determine in what areas and to what wells it would apply, and again this is no easy problem. As in the case of wildcat incentive plans, Vinson instructed that financial assistance be limited to those engaged in these activities. This statement might indicate he had subsidies instead of price increases in mind. Does it also mean that those not now operating secondary-recovery programs will be prevented from getting financial help if they want to start a project? It is probable that he had zone or area help in mind, rather than individual cases.

Clarification of ideas on assisting stripper, secondary-recovery and high-cost areas must be had before there can be an understanding of his views on this problem, however, in the case of wildcats he certainly meant subsidies, and he did an excellent job of handing the whole situation to Ickes. Meanwhile, the limitations Vinson put in Ickes' way left him full authority to rule on whatever Ickes may desire to do. Thus, it appears that Ickes must do the work, but that Vinson, or perhaps OPA, will decide whether it is proper.

Manufacturers to Help Meet Increased Material Schedules

DON R. KNOWLTON and Frank A. Watts of the Petroleum Administration for War are scheduled to talk to manufacturers of oil-field equipment during the meeting of the American Petroleum Institute this week in Chicago, on how manufacturers can help to meet the increased schedules of drilling and producing equipment during 1944.

Allocations of raw materials for oil-field equipment during the first quarter of next year will amount to twice such allocations during the third quarter of 1943. PAW, according to Knowlton, anticipates a drilling program of 24,000 wells during 1944, in the United States, plus a materially increased program in the Caribbean area. Recently the Caribbean program, slightly in excess of 600 wells for 1944, has been increased, the increase running between 15 and 20 percent.

New Industrial Age in Prospect

A REVOLUTION in industry is getting under way. In the past, such a cycle would have been called the "Steam Age," the "Electrical Age" or some such name. The new age is going to be somewhat more difficult to name, for instead of the industrial advance being limited to a single field, it is going to encompass them all. Plastics, electronics, synthetics, power—all are going to play a part, but not one is going to dominate.

In all these advances that are to build up the industrial evolution that is even now getting under way, there is one common denominator—engineering science. It is the engineer and the scientist and their many talents that will receive the calls for aid in the material requirements of tomorrow. There will be reality and a practical attitude with most of the long-haired planners and professional theorists being looked upon with suspicion. While there is not and never has been an indispensable person in this world, the engineer will certainly be vital to the industrial world in prospect.

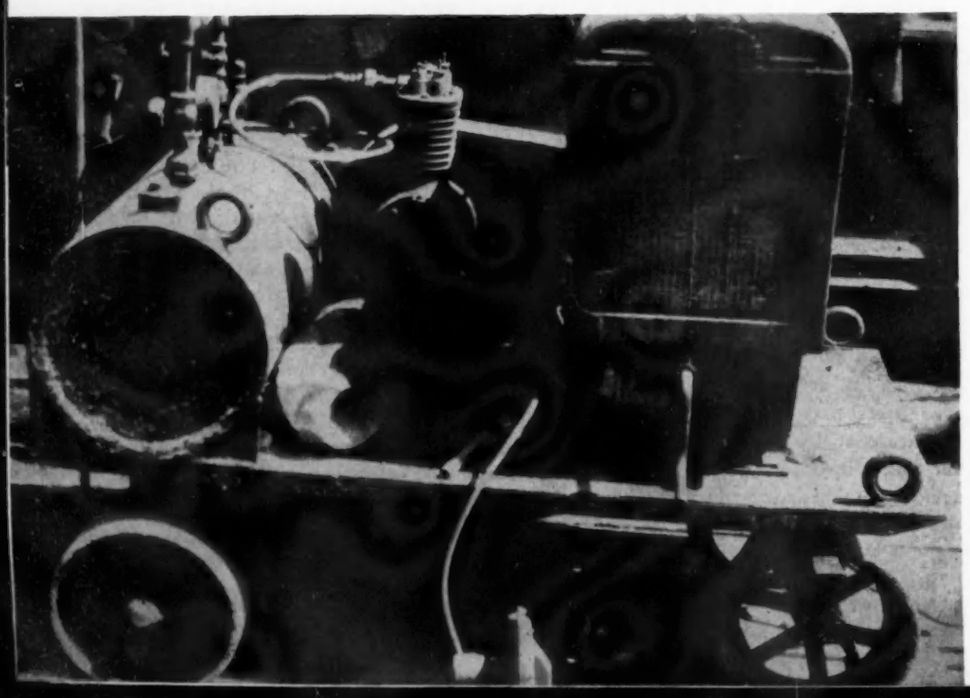
WARTIME Wheels

Manpower shortage places renewed emphasis on the problem of transporting maintenance equipment, and many units formerly manhandled aboard the service truck now are equipped with wheels—ingenious makeshifts, some of them—which permit towing onto the lease and quick transfer to the next job

DWINDLING of the ranks of pipeline, maintenance and summer reconditioning gang personnel, with the replacement of the burly, experienced professional oil-field worker by men who use such jobs as fill-ins between other employment, and by boys who are stretching the usual vacation jobs over the duration, poses a problem of equipment handling for the management which cannot be answered by the simple expedient of employing more men. Much of the repair and maintenance equipment is heavy, with built-on or readily attachable unit drives which in themselves constitute no small weight, and while the handling of such units aboard the gang truck for transportation offered no serious difficulty to the trained gang, it is frequently the cause of personal injury or equally serious equipment damage when the green hands attempt to do such loading and unloading.

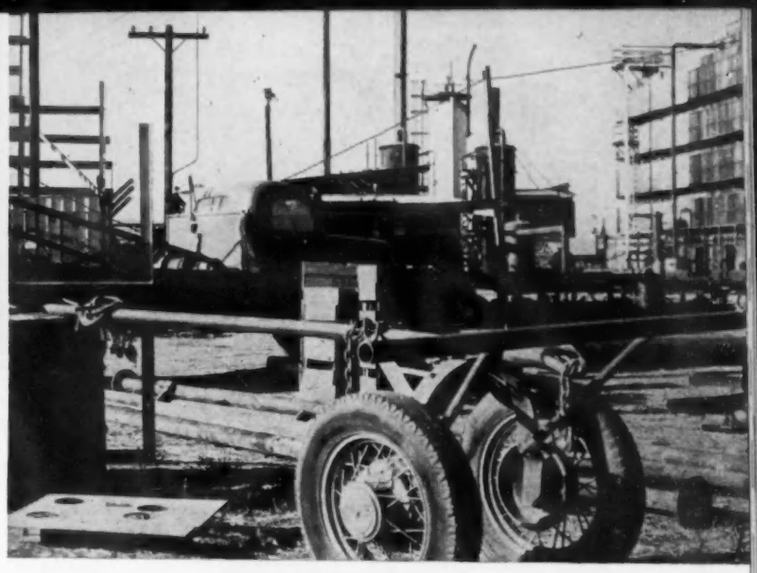
Since the shortage of available automotive equipment, especially in the range of vehicles normally used for handling lease equipment, prevents the obvious solution of the transportation problem—the placing of each unit on its separate truck for both handling and powering—superintendents, foremen and operators have adopted and adapted many types of wheeled undercarriages to the various units requiring frequent transfer, and are thus converting the former problem of equipment handling to one involving the mere towing of the necessary units from job to job, accomplishing the desired mobility of equipment with a minimum number of powered road units.

Wheels themselves, when not worked over from discarded automotive equipment, are sometimes ingeniously contrived from the usual types of steel scrap found around the warehouse yard or in the gleanings held back when the leases were combed for available—and non-reusable—scrap during the oil industry's drive to turn in the desired scrap materials to keep the steel mills in operation. Some of the wheels formerly were pipe or plate but, with the welder's help, were transformed to serviceable rolling units. One such type of wheel has for a steel tire a narrow band cut from "big-inch" pipe, or whatever diameter may be available. The hub is a short nipple of extra heavy pipe, of whatever diameter fits available axle stock and cut long enough to reduce the unit bearing stress to the point where intermittent lubrication will suffice to prevent cutting. The "spokes" for such a wheel may be made of one



Portable rig compressor unit with wheels made up from halves of 8-inch pipe collars as rims, 1-inch collars as hubs, and spokes formed by slitting ¼-inch tank steel and welding to hub and rim. Staggered spokes add to lateral strength of wheel and prevent collapse on rough going. This trailer, equipped with tongue for short hauls, is usually slung aboard the truck when shifting locations.

Two steel wheels, salvaged from a heavy farm wagon, form the rolling portion of this portable pump mounting, the unit being designed without springs to provide rigid pump mounting and eliminate weight. The front end support, formed from twin angle-irons, locks forward against a stop for rigidity, folding back along the tongue for transportation.



The wheels, bearings and spindles from a wrecked automobile form the rolling portion of this skeleton trailer, designed for handling pipe and rods around the lease. The arched central member of the axle has the king-pin ends of the spindle assemblies welded directly to it, insuring alignment and rigid mounting for the wheels.

or more disks of tank plate, cut to fit snugly within the pipe rim or tire, and welded thereto with a continuous bead if the disk fits the rim through the circumference.

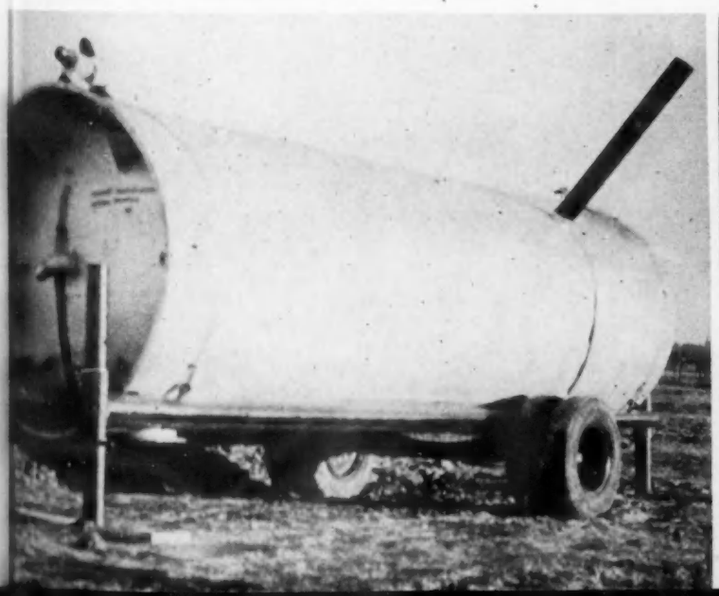
A modification of the disk involves cutting away the outer edges so as to leave perhaps 12 sections, each 1½ inches in length, still out to the original diameter, while the relieved portions in between afford clearance between disk and rim, and aid in taking up the welding expansion stresses which any but an experienced welder may tend to put into the rim when attaching it to the "spoke" section.

Where the wheel is to carry considerable side loading, as on units intended for transportation over rough terrain, the design is changed from the simple disk wheel to one with spokes, for which sucker rod is sometimes used. Sucker rod, however, on account of the type of steel required to meet the exacting demands of well pumping, is not a satisfactory material for a wheel where it must withstand road shock. Better results are obtained when such spokes are fashioned from mild steel, and one company, originally using sucker rods for this purpose, now replaces them with 1-inch pipe. This material has ample side rigidity to withstand bending, and weighs less than the solid rod which it supplants.

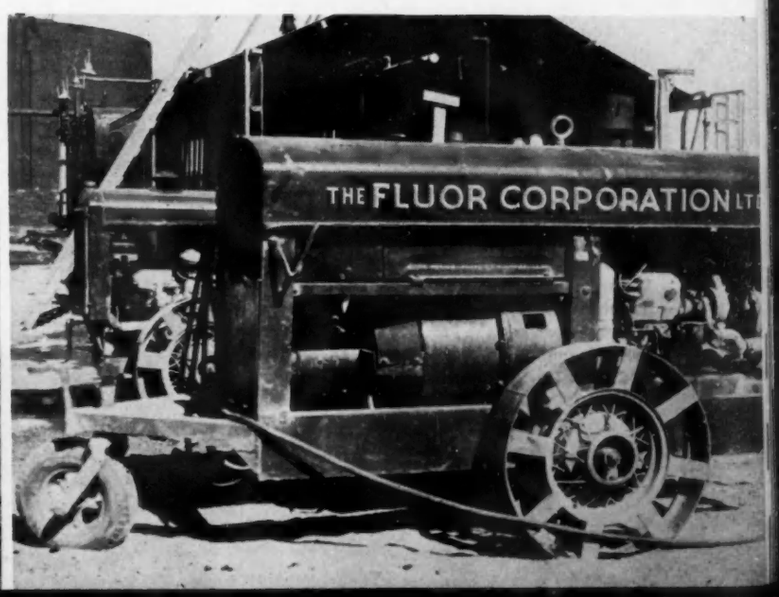
Welding of such wheels is within the ability range of the average pipe-line or maintenance-gang welder, if a few simple precautions be taken in laying out the wheel. One company laid out a welding jig, consisting of a section of tank plate, leveled and used for the ground connection of the welding circuit. A bolt through a countersunk hole in the center permitted accurate location and squaring of the hub nipples, while scribed circles aided in spotting the various rims of pipe steel. When properly spaced from the hub the rim was tack welded on the outside to maintain desired registry with the hub, and the spoke disk lowered onto spacer blocks so as to be properly set with regard to the width of the road wearing surface.

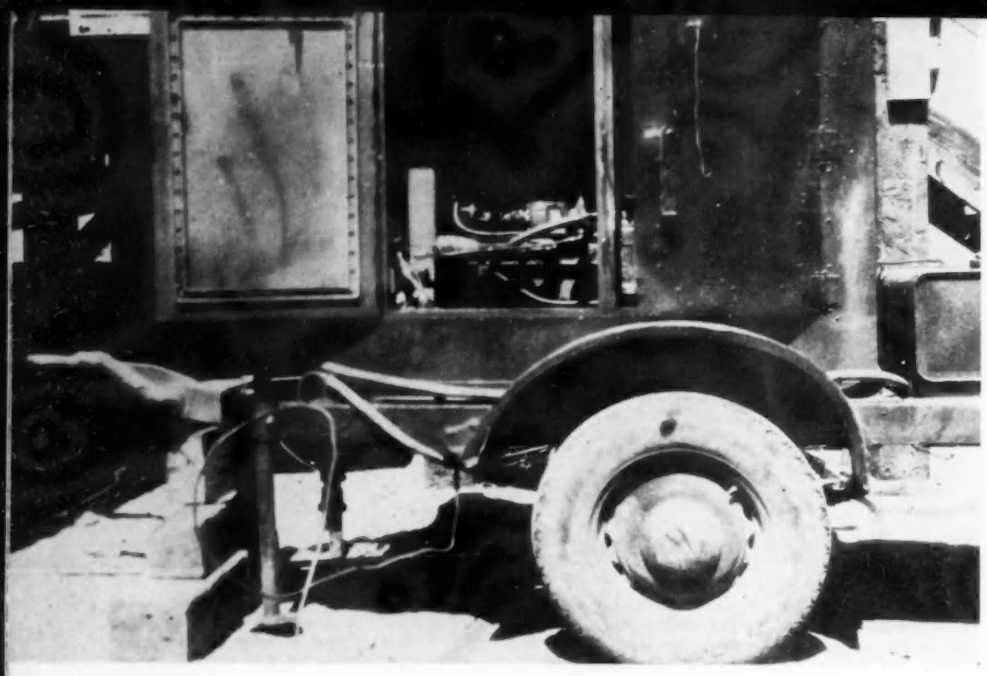
When thus located, the wheel was built up by welding alternately at spots as nearly as possible diametrically opposite from previous welds, so as to avoid the formation of an expansion wave around the steel which would result in a tendency to form a hump at one spot on the periphery, or to stress the weld previously made. Such a jig is almost a necessity when building up the spoke-type wheel, as the proper center-

Horizontally mounted separator is transported on the dual-wheeled axle salvaged from a heavy-duty trailer, the front or nearer end of the separator being attached to the drawbar of the towing unit with swivel connection to prevent racking of the relatively light frame when on the move. Heavy spud bars, adjustable individually to accommodate terrain irregularities, take the load and vibration of the unit while in service, relieving the tires of load except when actually on the move.



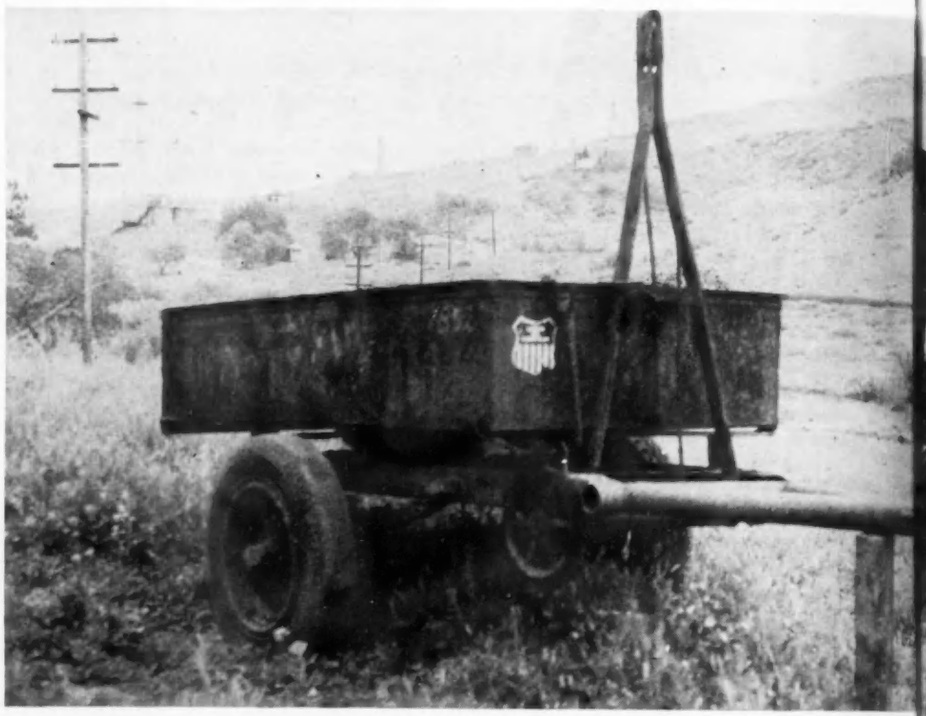
Steel rims form a wheel large enough to lift this unit and afford proper clearance for rough terrain. The rim, carried on wide spokes welded to the steel rim of the old-type wire automobile wheel, affords ample bearing surface to support the equipment over any type of soil. The small caster wheel or dolly in front is unshipped when the unit is to be towed, drawbar connection being made at this point with special hitch to relieve side stresses.





An old rear axle, pinion shaft removed and gap plugged, serves to support this rig-lighting generator and permit shifting over the highway at any speed desired. Twin screw jacks, operating through nuts welded to the former automobile frame, provide levelling means and carry a portion of the load of the equipment when set up at the rig. By blocking under the tank end of the frame, the jacks may be used to lift the unit and relieve the tires of load until another shift is desired.

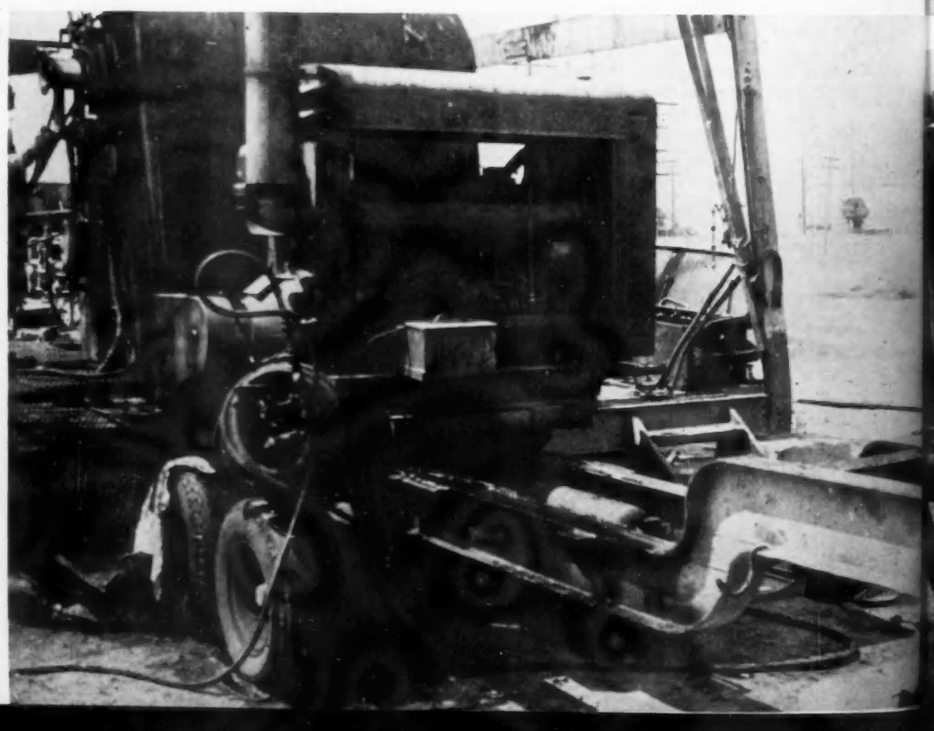
A section of an old trailer unit, axle intact, has been equipped with a dump body and a small geared winch so it may be towed behind a truck and unloaded by one man without greatly delaying the equipment. The trailer permits the handling of earth, sand, gravel or cement without loading the tow truck, or exposing other equipment carried thereon to contamination.



ing must be maintained if the unit is to stand up in service.

On units which must cover considerable distances, the plain sleeve-bearing wheel—imposing slow speed on the device despite copious lubrication—consumes too much crew or tractor time on the road between jobs, and the ball- or roller-bearing type of wheel is required, even if the steel rim be retained due to unavailability of rubber-tired units. One company salvages front wheels, spindles, bearings and rims from the cars which have been worn out in lease or gauger service, rebuilding the units which are not too badly worn on the kingpin assembly and converting them to trailer steering units for tractor-drawn equipment.

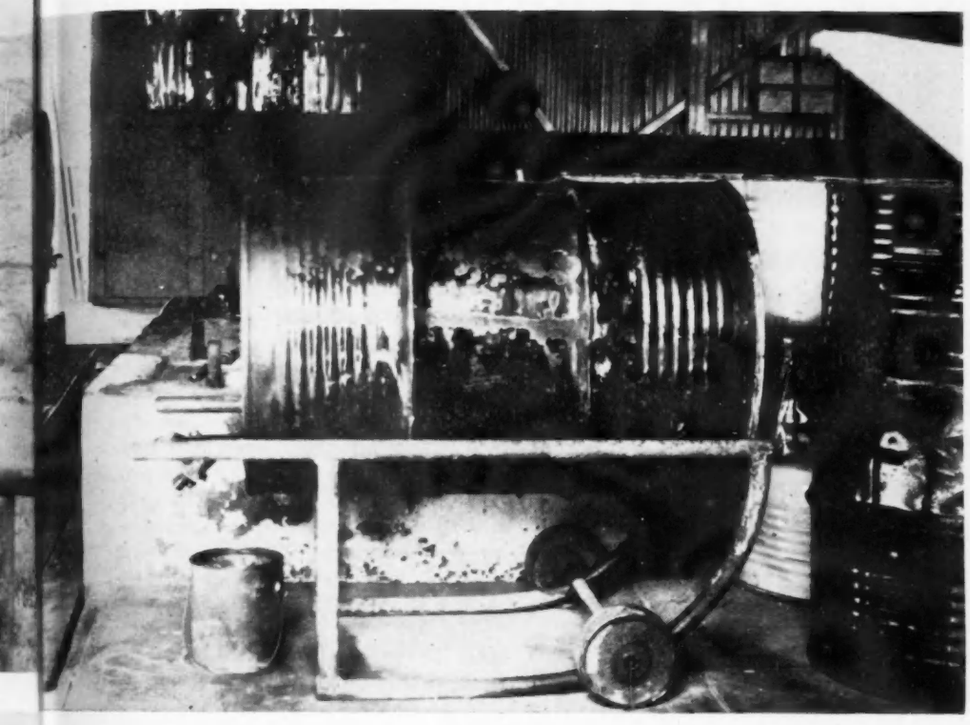
Where the king-pin assembly is worn beyond the possibility of bushing and refitting, the forging itself is welded to a plate on the frame of the wheel-mounted unit, properly leveled and aligned so that when the wheel is assembled on the stub of axle thus formed it will track properly with its mate across the frame of the unit. The wheel itself, if not of the proper size, is used as an expanded hub and a wheel of the desired diameter built up around it. One com-



This special heavy-duty trailer, shaped to accommodate the skid members of a unitized drawworks, carries built-in guides so the power unit may be slid outward beyond the wheels to rest on blocking provided on the derrick floor. By so shifting the unit during servicing the well the tires are relieved of heavy vibrating load concentrated on the same, relatively small area, through considerable time. The tires are also much less exposed to oil or possible injury than when unit operates directly above them.

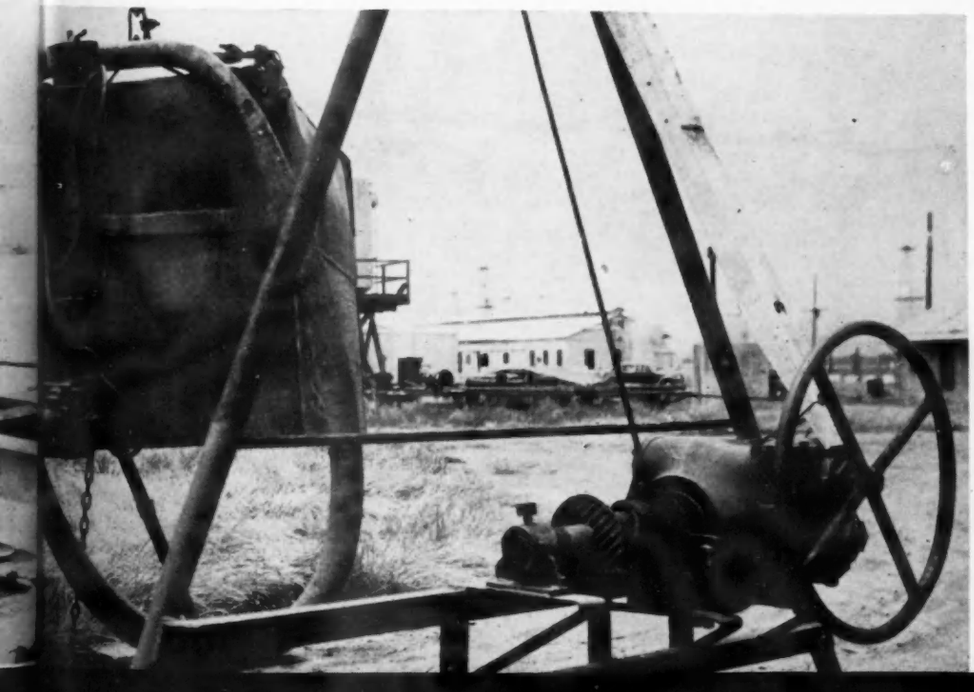
Ratchet or screw jacks, suspended between swing joints on the frame of this servicing truck, may be folded under and out of the way while on the road, being dropped and given proper loading to relieve the tires of weight and to provide desired rigidity while unit is being operated. The jacks are readily removed for servicing by pulling clevis pin.

Short sections of 6-inch pipe, small nipples, and a "spoke" section made from light tank plate, make this drum rack serve also as warehouse truck, permitting one man to shift the drum from the unloading platform to desired storage space, and then to draw required amounts of lubricant without aid. Since the unit is designed for warehouse only, relatively small wheels provide the desired mobility without impairing the practicability of the unit.



pany takes the wheel with the standard rim and shrinks on it a tire, made from a section of big-inch pipe, cut down and rewelded to fit closely over the rim. Where used on self-propelled vehicles for off-the-road use, this rim serves as a base for the chevron-shaped cleats welded onto the smooth steel rim to provide the necessary traction in mud, sand or loose soil. On front wheels it is rarely necessary to weld the tread thus formed to the original wheel rim, the shrink grip being found adequate to hold the rim in place if the fit be carefully made. On the driving wheels, however, the tire and rim are welded at frequent intervals around the line of contact, usual practice being to weld for one inch or more, and leave a gap of equal length before again resuming the laying of the bead.

Where such units must use paved roads, removable cleats must be provided to prevent highway damage, or the use of a bolted-on out rim with driving devices used. Where truck wheels are used to provide the bearing and hub sections of such revised equipment, two types of steel tires are provided, each being held in place by the



When usual sources fail, oil-field ingenuity finds another way. Here a rear axle from a wrecked car has been remodeled to form a one-man winch for changing tanks on a service truck. The power is applied through a valve wheel mounted in place of the usual shaft universal, while the stub of one side of the axle, with the wheel bearing moved in for more rigid support, serves as drum on which is wound the flexible line used for hoisting load.

A specially designed body on this pick-up truck, with twin ramps of proper gauge, enable this tractor-mounted welding unit to be transported at high speed over paved highways, the tractor being unloaded and driven under its own power through difficult going and even, on occasion, furnishing the extra power to extricate its carrier from bog or mudhole.

locking wedges and nuts formerly used for locating and fastening the steel rim carrying the tire.

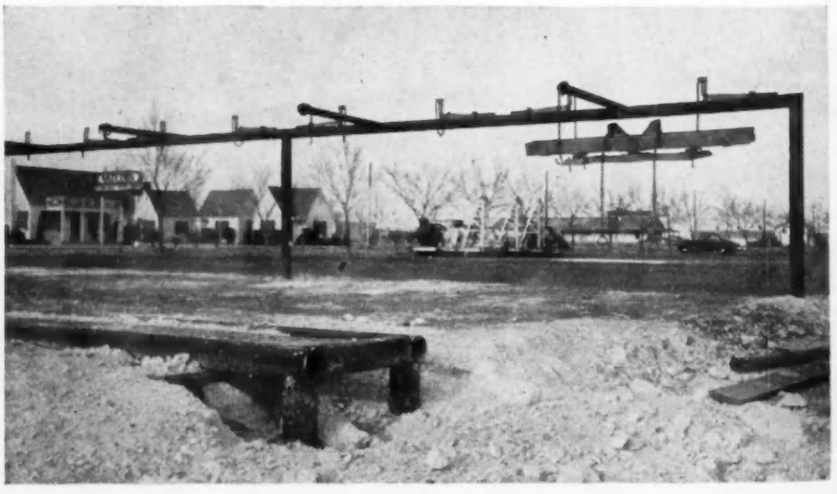
Tire Protection

Rubber tires, designed for road wear, are frequently overstressed when used as supports for well-servicing units, slim-hole drilling rigs and similar equipment. When used as support for such units, the load is concentrated over a considerable period on a relatively small section of the tread and the bulge or distortion necessary to distribute the loading tends to become permanent in the tire. Such bulges, when heavy equipment has operated for a month in one spot, may be noticed even after the tires have covered many miles after being relieved of the stationary loading, and many blowouts and other carcass failures have been traced to separation of plies, deformation of the rubber matrix, or breakage of fabric at the spot where the natural resilience of the tire was destroyed. Many operators now arrange to relieve the equipment of the load at all times except when actually on the road, shifting the equipment to solid bases when operating, and being supported by slings, jacks or other mechanical means during idle periods. Tires thus relieved of excessive load, and at the same time protected against the sun, wet and oil, give service many times that to be expected if the tire is given neither protection nor relief.

In the warehouse, as on the road, manpower shortage is everywhere apparent. Where two men formerly were considered a minimum, one now manages to get along somehow and keep the supplies in order. But to help him, much of the equipment is provided with some means of rolling it into place, in distinction to the old strong-arm method. Drums of lubricants, for instance, when not placed on elevated racks by the truck delivering the material, are handled on combination trucks and stands, so that one man is able to manage the 400-pounds-plus load without waiting to secure aid from some other employe, happening to be in the warehouse.

Skid-mounted units, if not equipped with sockets into which may be set heavy bolts carrying wheels which enable one man to move them around the warehouse, are redesigned so that at least one end is beveled so that pipe rollers may be placed and the unit barred onto them for easier shift between loading platform and storage space.

Service masts and other long material, as well as infrequently used truck bodies, may be most conveniently stored overhead, so that the reloading on the service truck requires merely lowering into place, with one man or at best two being available for maneuvering the chain hoists, winches, or other lifting gear with which the unit is shifted.



Wheels are stretched with this device, enabling one truck to transport the servicing derrick when needed, or to be employed elsewhere between jobs. The specially designed hoisting yoke and supports are used to change the type of trailer bed, the truck being backed under the rack and the proper unit lowered into place. The device enables one truck and three special trailer bodies to perform the servicing and upkeep chores usually assigned to three or more individual units, with the saving of two-thirds of attendance otherwise demanded.

Program

Twenty-Fourth Annual Meeting

Second Wartime Convention of the Petroleum Industry

Palmer House, Chicago

BOARD OF DIRECTORS MEETING

Wednesday, November 10, 1943

10:00 AM

Board of Directors ..... **(Crystal Room)**

BOARD OF COUNCILLORS MEETING

Wednesday, November 10, 1943

10:00 AM

Board of Councillors ..... **(Private Dining Room 14)**

EXECUTIVE COMMITTEE MEETING

Thursday, November 11, 1943

10:00 AM

Executive Committee ..... **(Private Dining Room 8)**

GENERAL SESSION

Wednesday, November 10, 1943

2:00 PM

General Session: (Grand Ball Room)

Report of Board of Councillors and Election of Directors.

President's Address:
William R. Boyd, Jr., President, American Petroleum Institute; Chairman, Petroleum Industry War Council.

Address:
Colonel Bradley Dewey, Rubber Director, War Production Board, Washington, D. C.

Address:
Warren H. Atherton, National Commander, American Legion, Indianapolis, Ind.

Address:
Ralph K. Davies, Deputy Petroleum Administrator for War, Washington, D. C.

GENERAL SESSION

Wednesday, November 10, 1943

8:00 PM

General Session—Motion Pictures: (Grand Ball Room)

"Belvoir" Film—Oil Executives Go to War.

"Oil for War"—Film Covering Construction of the "Big Inch" Pipe Line.

"At the Front"—The Army Signal Corps Battle Picture of Tunisian Campaign.

(These will be shown through the courtesy of The Barrett Division, Allied Chemical and Dye Corp., New York, N. Y.)

GENERAL SESSION

Thursday, November 11, 1943

2:00 PM

General Session: (Grand Ball Room)

Address:
Hon. Harold L. Ickes, Secretary of the Interior; Petroleum Administrator for War, Washington, D.C.

Address:
Charles E. Wilson, Executive Vice Chairman, War Production Board, Washington, D.C.

Address:
Hon. Artemus L. Gates, Assistant Secretary of the Navy for Air, Washington, D.C.

GROUP SESSIONS

Production, Refining, and Protection of Petroleum Facilities

(Tuesday, November 9—Thursday, November 11)

GROUP SESSION

Tuesday, November 9, 1943

10:00 AM

PROTECTION OF PETROLEUM FACILITIES

Wartime Facility Security: (Red Lacquer Room)
Presiding: George A. Hill, Jr., Chairman, PIWC Committee on Protection of Petroleum Facilities; Houston Oil Co. of Texas, Houston, Texas.

■ CONTINUED

PROGRAM TWENTY-FOURTH ANNUAL MEETING

Wartime Instruction and Training of Employees.
L. S. Wescoat, Chairman, PIWC Great Lakes Region Committee on Protection of Petroleum Facilities, Chicago, Ill.

Wartime Fire Protection.
A. A. Jergins, Petroleum Administration for War, Washington, D. C.

Wartime Protection of Petroleum Piers and Wharves.
Captain Norman B. Hall, U. S. Coast Guard, Washington, D. C.

Coordinating Wartime Internal-Security Programs.
Colonel George K. Engelhart, Provost Marshal General's Office, Washington, D. C.

GROUP SESSION
Tuesday, November 9, 1943
1:30 PM

DIVISION OF REFINING

Wartime Cooperation: (Grand Ball Room)
Presiding: G. G. Oberfell, Phillips Petroleum Co., Bartlesville, Okla.

Technological Team Work.
T. G. Delbridge, Chairman, PIWC Technical Advisory Committee; The Atlantic Refining Co., Philadelphia, Pa.

Cracking-Coil Tubes at War—They Can Take It!
P. J. Harrington, M. S. Northup, and C. O. Rhys, Sr., Standard Oil Development Co., Elizabeth, N. J.

The Analytical Chemist on the Spot.
Harry Levin, Chairman, PIWC TAC Subcommittee on Analytical Methods, The Texas Co., Beacon, N. Y.

The Activities of the Aviation-Gasoline Advisory Committee.
H. G. Burks, Jr., Chairman, PAW Aviation-Gasoline Advisory Committee; Standard Oil Co. of New Jersey, New York, N. Y.

Oiling the War Machine.
G. R. Lord, Chairman, PAW Lubricating-Oil Advisory Committee, Sinclair Refining Co., New York, N. Y.

The Coordinating Research Council.
K. G. Mackenzie, Chairman, Automotive Research Committee; The Texas Co., New York, N. Y.

GROUP SESSION
Tuesday, November 9, 1943
2:00 PM

DIVISION OF PRODUCTION

Internal Corrosion of Products Pipe Lines: (Red Lacquer Room)
(Sponsored by the Topical Committee on Pipe-Line Technology)

Presiding: A. H. Riney, Phillips Petroleum Co., Bartlesville, Okla., and W. F. Rogers, Gulf Oil Corp., Houston, Texas.

Suggested Formula for Calculating Capacity of Products Lines.
T. R. Aude, Stanolind Pipe Line Co., Tulsa, Okla.

Symposium on Combating Internal Corrosion of Products Pipe Lines.
The following companies will participate:
Detroit Southern Pipe Line Co.—D. E. Sullivan.
General Petroleum Corp. of California—W. H. Simpson
Great Lakes Pipe Line Co.—C. C. Keane
Gulf Refining Co. and Project 5 Pipe Line Corp.—W. F. Rogers
Humble Pipe Line Co.—H. M. Stevenson
Keystone-Buffalo Pipe Line System—H. G. Schad
Magnolia Pipe Line Co.—E. A. Koenig
Phillips Petroleum Co.—J. W. Boyd
Shell Oil Co., Inc., Bayou Systems, and Plantation Systems—S. S. Smith and R. K. Schulze
Southeastern Pipe Line Co.—B. W. Winters
Standard Oil Co. (Indiana)—F. E. Wood
The Standard Oil Co. (Ohio)—R. L. Harris and E. F. Morrill
Susquehanna Pipe Line Co.—J. M. Pearson

Note: If necessary, this session wil continue Tuesday evening in the same room beginning at 8:00 pm.

GROUP SESSION
Tuesday, November 9, 1943
2:00 PM

DIVISION OF PRODUCTION

Determination of Oil Fields' Susceptibility to Secondary Recovery: (Private Dining Room 17)
(Sponsored by the Central Committee on Drilling and Production Practice.)

Presiding: Paul D. Torrey, Consulting Engineer, Houston, Texas, and George H. Fancher, University of Texas, Austin, Texas.

Part I: Schedule of Information Desirable for a Study of the Secondary-Recovery Possibilities of an Oil Field.
Paul D. Torrey, Consulting Engineer, Houston, Texas.

Part II: Analysis of Field Information and Discussion of Criteria Determining the Probability of Success of Secondary-Recovery Operations:
Sect. 1—Preliminary Field Tests for Determining Required Injection Volumes and Pressures, and Plant Capacity.
Study Group Leader: Jo H Cable, Cable Oil Co., Wichita Falls, Texas.

Sect. 2—Geologic Factors Influencing Secondary Recovery.
Study Group Leader: Jo H. Cable, Cable Oil Co., Institute of Technology, Pittsburgh, Pa.

Sect. 3—Effects of Permeability on Secondary-Recovery Well Spacing and Injection Rates and Pressures.
Study Group Leader: N. E. Maxwell, Cities Service Oil Co., Bartlesville, Okla.

Sect. 4—Influence of Fluid Saturation on Secondary Recovery of Oil.
Study Group Leader: Parke A. Dickey, Forest Oil Corp., Bradford, Pa.

Sect. 5—Prediction of Secondary Recovery from Core Analyses.
Study Group Leader: R. C. Earlougher, Geologic Standards Co., Tulsa, Okla.

Sect. 6—Influence of Viscosity of Crude Oil on Secondary Recovery.
Study Group Leader: W. A. Heath, Phillips Petroleum Co., Bartlesville, Okla.

Sect. 7—Theoretical Calculations for Use in the Installation and Operation of Secondary-Recovery Projects.
Study Group Leader: George H. Fancher, University of Texas, Austin, Texas.

Sect. 8—Surface-Tension Effects in Secondary Recovery.
Study Group Leader: Paul D. Torrey, Consulting Engineer, Houston, Texas.

Sect. 9—Electrolytic-Model Studies of Secondary Recovery.
Study Group Leader: W. L. Horner, Barnsdall Oil Co., Tulsa, Okla.

Sect. 10—Economic Factors in Secondary Recovery.
Study Group Leader: W. B. Berwald, The Ohio Oil Co., Tulsa, Okla.

• CONTINUED

What's Behind the Trade Mark?

QUALITY

TRADE MARK

YOUNGSTOWN

SERVICE

Progress During Post-War Reconstruction

From the records of 1919-22 may come help for our approaching V-day business problems.

After the 1918 Armistice, Youngstown's operations fell to 50%, then 33⅓% of capacity. Inventory values tumbled, money was scarce, orders almost nonexistent even at low prices.

The company faced this situation courageously, constructively. Returning soldier-employees were put to work. Warehouse additions were built. Its $20,000,000 common stock was converted to a million no-par shares, the dividend rate cut.

But the most effective step---for both immediate relief and long-term success---came in a far-sighted program of plant renovation and expansion which kept thousands at work. Expensive wartime machinery was junked, replaced by better, more costly new equipment---a new tube mill, a new plate mill, electrification of the sheet mills. Lessons learned in war production were rigorously applied ---to increase efficiency, improve products and lower costs.

Results soon began to show---a profit on late 1922 operations. America's free enterprise system had permitted the company to right itself and it faced the future confidently. With finances sound and plant modernized, Youngstown could continue to provide jobs for its employees, earn dividends for its shareholders, furnish quality products and dependable service to its customers, and above all, to build corporate strength that is helping now to sustain America in this hour of need.

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Observing Heat of Open Hearth Steel

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Rods - Wire - Nails - Tie Plates and Spikes - Alloy and Yoloy Steels

PROGRAM TWENTY-FOURTH ANNUAL MEETING

GROUP SESSION
Tuesday, November 9, 1943
8:00 PM

DIVISION OF PRODUCTION

Drilling and Production Practice: (Private Dining Room 17)
(Sponsored by the Central Committee on Drilling and Production Practice)

Presiding: F. E. Heath, Sun Oil Co., Dallas, Texas, and M. H. Parks, Humble Oil and Refining Co., Houston, Texas.

Standardization of Electrical-Log Headings.
W. L. Jarvis, The Texas Co., Los Angeles, Calif.

Counterbalancing of Oil-Well Pumping Machines.
E. N. Kemler, Purdue University, Lafayette, Ind.

Wednesday, November 10, 1943
9:00 AM

DIVISION OF PRODUCTION

Production and Pipe-Line Transportation under War Conditions: (Red Lacquer Room)

Presiding: T. E. Swigart, Shell Pipe Line Corp., Houston, Texas.

Building the "Big Inch" Pipe Lines.
Burt E. Hull, War Emergency Pipelines, Inc., Cincinnati, Ohio.

Manpower—The Industry's No. 1 Problem.
John M. Lovejoy, Chairman, PIWC Committee on Manpower; Seaboard Oil Co. of Delaware, New York, N. Y.

Drilling Efficiency under War Conditions.
Arch H. Rowan, American Association of Drilling Contractors, Fort Worth, Texas.

GROUP SESSION
Wednesday, November 10, 1943
9:30 AM

DIVISION OF REFINING

Research Reports and Catalytic Cracking: (Grand Ball Room)

Presiding: J. F. M. Taylor, Shell Oil Co., Inc., New York, N. Y.

Hydrocarbons in the Gasoline Fraction of Seven Representative Crudes.
A. F. Forziati, C. B Willingham, B. J. Mair, and F. D. Rossini, National Bureau of Standards, Washington, D. C.

The Synthesis and Properties of Hydrocarbons of High Molecular Weight—III.
R. W. Schiessler, D. G. Clarke, C. S. Rowland, W. S. Sloatman, and C. H. Herr, The Pennsylvania State College, State College, Pa.

Houdry Adiabatic Process for the Conversion of Petroleum Hydrocarbons.
Eugene J. Houdry, Houdry Process Corp., Wilmington, Del.

Cracking with Catalysts.
C. L. Thomas, N. K. Anderson, H. A. Becker, and J. McAfee, Universal Oil Products Co., Chicago, Ill.

GROUP SESSION
Thursday, November 11, 1943
9:00 AM

DIVISION OF PRODUCTION

Drilling and Production Practice: (Red Lacquer Room)
(Sponsored by the Central Committee on Drilling and Production Practice)

Presiding: T. H. Acres, Richfield Oil Corp., Los Angeles, Calif., and S. E. Buckley, Humble Oil and Refining Co., Houston, Texas.

The Foaming Tendency and Stability of Crude Petroleum.
W. H. Somerton, University of California, Berkeley, Calif.

A New Application of Water Injection for Maintaining Reservoir Pressure and Increasing Natural Water Drive.
W. L. Horner and D. R. Snow, Barnsdall Oil Co., Tulsa, Okla.

Permeability as Related to Productivity Index.
Norris Johnston, General Petroleum Corp. of California, Los Angeles, Calif., and J. E. Sherborne, Union Oil Co. of California, Santa Fe Springs, Calif.

Report of Division's Nominating Committee.
George S. Bays, Stanolind Oil and Gas Co., Tulsa, Okla., Chairman.

Election of Twenty Members of the General Committee of the Division of Production.

GROUP SESSION
Thursday, November 11, 1943
9:30 AM

DIVISION OF REFINING

Catalytic Cracking: (Grand Ball Room)

Presiding: W. B. Ross, The Pure Oil Co., Chicago, Ill.

Gas-Oil Cracking by the Cycloversion Process.
W. A. Schulze and C. J. Helmers, Phillips Petroleum Co., Bartlesville, Okla.

Recent Developments in TCC Processing.
T. P. Simpson, J. W. Payne, L. P. Evans, and C. V. Hornberg, Socony-Vacuum Oil Co., Inc., Paulsboro, N. J.

New Houdry Static-Bed Developments.
R. H. Newton and T. B. Prickett, Houdry Process Corp., Wilmington, Del.

Fluid-Catalyst Cracking for Premium Fuels.
E. V. Murphee, H. G M. Fischer, E. J. Gohr, and W. J. Sweeney, Standard Oil Development Co., Elizabeth, N. J.; and C. L. Brown, Standard Oil Co. of Louisiana, Baton Rouge, La.

Report of Division's Nominating Committee.
J. T. McCoy, Tide Water Associated Oil Co., Bayonne, N. J., Chairman.

Election of Twenty Members of the General Committee of the Division of Refining.

■ CONTINUED

oil history at Spindletop!

One of the greatest producing oil fields in history! Discovered in 1900 by a man and his wife whose one-room shack was furnished with crackerbox chairs and a rough board table!

Captain Anthony Lucas, retired, put every cent he could scrape together back of his faith that the Spindletop salt dome in Texas would produce oil. He lost one well, then drilled another . . . *a well that roared in for 75,000 to 100,000 barrels a day.*

"Wildcatters" like Captain Lucas have made Texas the world's leading oil-producing area. And *wherever* those pioneers have gone they have looked for help to the well stocked, convenient stores and experienced service men of The National Supply Company.

National Oil Field Machinery and Equipment have been important factors in the development of every oil field in the world. Spang Pipe — a National product — made, since 1840, in the first pipe mill west of the Alleghenies, is well-known for dependable service in drilling oil wells, for pipe lines, ships, all kinds of industries, homes and other installations. Superior Engines—built by National—are world famous for power and economy in Oil Field, Industrial and Marine use.

The National Supply Company as an industrial leader of this nation is destined to play an important part in the peacetime expansion of tomorrow.

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PROGRAM TWENTY-FOURTH ANNUAL MEETING

COMMITTEE MEETINGS

Division and Special Committees

(Friday, November 5—Thursday, November 11)

Friday, November 5, 1943

Morning

9:00 am **Special Subcommittee on Simplification of Casing Lists (of the Pipe Committee)** (Private Dining Rooms 15-16)
Chairman: H. N. Marsh

Afternoon

3:30 pm **Correlating Committee on Gages and Gaging Practice.** (Private Dining Room 17)
Chairman: J. Jay Dunn
Secretary: C. A. Young

Evening

8:00 pm **Subcommittee on Thread Measurement (of the Pipe Committee).** (Room 782)
Chairman: B. B. Wescott

Saturday, November 6, 1943

Morning

9:00 am **Engineers' Subcommittee on Pipe.** (Private Dining Rooms 15-16)
Chairman: H. W. Ladd
Secretary: P. A. Mills

9:00 am **Pipe Manufacturers' Subcommittee.** (Private Dining Room 17)
Chairman: J. Jay Dunn
Secretary: W. O. Clinedinst

Evening

8:00 pm **Special Subcommittee on Internal-Upset Casing (of the Pipe Committee).** (Room 782)
Chairman: J. Jay Dunn

Monday, November 8, 1943

Morning

9:00 am **Valve Subcommittee (of the Committee on Standardization of Refinery Equipment).** (Private Dining Room 2)
Chairman: Basil Hopper

9:00 am **Committee on the Standardization of Oil-Country Tubular Goods.** (Private Dining Room 17)
Chairman: John R. Suman
Secretary: H. W. Ladd
Recording Secretary: P. A. Mills

COMMITTEE MEETINGS

Monday, November 8, 1943

Morning

9:00 am **Subcommittee on Core Analysis and Electrical Logging (of the Topical Committee on Production Technology).** (Room 789)
Chairman: J. E. Sherborne

9:00 am **Joint Meeting.** (Room 796)
Engineers' Subcommittee on Tanks.
Acting Chairman: Walter Samans
Production Tank Manufacturers' Subcommittee.
Chairman: G. Raymond

9:00 am **Joint Meeting (Open):** (Private Dining Room 11)
Steel Derrick Manufacturers' Subcommittee.
Chairman: C. R. Athy
Manufacturers' Subcommittee on Portable Masts.
Chairman: C. R. Athy
Engineers' Subcommittee on Derricks.
Chairman: C. A. Dunlop

9:00 am **Advisory Committee on Fundamental Research on Occurrence and Recovery of Petroleum.** (Private Dining Room 18)
Chairman: E. G. Gaylord
Secretary: C. A. Young

9:00 am **Subcommittee on Internal Corrosion of Gasoline Pipe Lines (of the Topical Committee on Pipe-Line Technology).** (Private Dining Room 14)
Chairman: A. H. Riney

9:00 am **Committee on Disposal of Refinery Wastes.** (Private Dining Room 7)
Chairman: W. B. Hart
Secretary: D. V. Stroop

Afternoon

2:00 pm **Topical Committee on Pipe-Line Technology (of the Central Committee on Pipe-Line Transportation).** (Private Dining Rooms 15-16)
Chairman: W. F. Rogers

2:00 pm **Central Committee on the Standardization of Oil-Field Equipment.** (Private Dining Room 18)
Chairman: J. Edgar Pew
Secretary: C. A. Young

2:00 pm **Subcommittee on Secondary Recovery (of the Topical Committee on Production Practice).** (Private Dining Room 14)
Chairman: Paul D. Torrey

2:00 pm **Committee on Uniform Methods of Oil Accounting.** (Private Dining Room 1)
Chairman: J. H. Botkin

2:00 pm **Wire Rope Manufacturers' Subcommittee.** (Room 777)
Chairman: John K. Broderick

COMMITTEE MEETINGS

Monday, November 8, 1943

Afternoon

2:00 pm **Subcommittee on Pumps.** (Room 788)
Chairman: E. W. Ostrom
Secretary: B. M. Caldwell

2:00 pm **Committee on Standardization of Refinery Equipment.** (Private Dining Room 9)
Chairman: A. E. Pew, Jr.
Secretary: R. P. Anderson

3:00 pm **Committee on Vocational Training in Refining.** (Private Dining Room 3)
Chairman: Raymond Haskell
Secretary: R. P. Anderson

4:30 pm **Central Committee on Refinery Technology.** (Private Dining Room 9)
Chairman: T. G. Delbridge
Secretary: R. P. Anderson

Evening

8:00 pm **Committee on Corrosion of Refinery Equipment.** (Private Dining Room 7)
Chairman: L. L. Davis
Secretary: D. V. Stroop

8:00 pm **Joint Meeting.** (Room 777)
Group 1—Subcommittee on Pipe-Line Valves.
Chairman: J. J. Boyd
(Main) Subcommittee on Valves and Fittings.
Chairman: W. S. Crake

8:00 pm **Subcommittee on Speed Reducers.** (Private Dining Room 14)
Chairman: E. N. Kemler

8:00 pm **Joint Meeting.** (Private Dining Room 18)
Central Committee on Drilling and Production Practice.
Chairman: F. E. Heath
Secretary: C. A. Young
Executive Committee (of the Central Committee on Drilling and Production Practice).
Chairman: F. E. Heath
Secretary: C. A. Young
Program Committee (of the Central Committee on Drilling and Production Practice).
Chairman: T. H. Acres
Secretary: C. A. Young

■ CONTINUED

QUALITY BUILT BEARINGS

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FRICTION FIGHTER

BEARINGS

Roller and Ball Types

PROGRAM TWENTY-FOURTH ANNUAL MEETING

COMMITTEE MEETINGS
Tuesday, November 9, 1943

Morning

9:00 am **Joint Meeting on Pumping Machines (Open):** (Private Dining Room 14)
Steel Derrick Manufacturers' Subcommittee.
Chairman: C. R. Athy
Subcommittee on Speed Reducers.
Chairman: E. N. Kemler
Engineers' Subcommittee on Derricks.
Chairman: C. A. Dunlop
Engineers' Subcommittee on Pumping Equipment and Engines.
Chairman: H. N. Marsh
Also Interested Users and Manufacturers.

9:00 am **Central Committee on Pipe-Line Transportation.** (Private Dining Room 17)
Chairman: C. H. Kountz
Secretary: C. A. Young

9:00 am **Group 1—Subcommittee on Measuring, Sampling, and Testing Natural Gasoline.** (Room 796)
Chairman: B. R. Carney

9:00 am **Engineers' Subcommittee on Wire Rope.** (Room 777)
Chairman: F. H. Schnoor

9:00 am **Special Study Committee on Allocation of Production and Well Spacing.** (Private Dining Room 4)
Chairman: Edgar Kraus

10:00 am **Subcommittee on Railroad Equipment.** (Private Dining Room 6)
Chairman: D. V. Stroop

10:00 am **Committee on Fire Prevention in Refineries.** (Private Dining Room 7)
Chairman: C. E. Townsend
Secretary: D. V. Stroop

10:00 am **American Petroleum Industries Committee.** (Private Dining Room 11)
Chairman: Harry T. Klein
Secretary: Edwin S. Hall

10:00 am **Lubrication Committee.** (Private Dining Room 8)
Chairman: L. C. Welch

10:00 am **Committee on Uniform Methods of Oil Accounting.** (Private Dining Room 1)
Chairman: J. H. Botkin

10:30 am **Advisory Committee on Fundamental Research on the Composition and Properties of Petroleum.** (Private Dining Room 9)
Chairman: J. Bennett Hill
Secretary: R. P. Anderson

COMMITTEE MEETINGS
Tuesday, November 9, 1943

Afternoon

12:15 pm **General Committee, Division of Production (Luncheon)** (Private Dining Room 18)
Chairman: George A. Hill, Jr.
Secretary: C. A. Young

2:00 pm **Joint Meeting:** (Room 777)
Engineers' Subcommittee on Wire Rope.
Chairman: F. H. Schnoor
Wire Rope Manufacturers' Subcommittee.
Chairman: John K. Broderick

2:00 pm **Subcommittee on Car Service.** (Private Dining Room 6)
Chairman: J. M. O'Day

2:00 pm **Central Committee on Automotive Transportation.** (Private Dining Room 7)
Chairman: Leo Huff
Secretary: D. V. Stroop

3:30 pm **Central Committee on District Activities.** (Private Dining Room 18)
Chairman: D. T. Ring
Secretary: C. A. Young

4:30 pm **Committee on Railroad Transportation.** (Private Dining Room 6)
Chairman: Fayette B. Dow
Secretary: D. V. Stroop

4:30 pm **General Committee, Division of Refining.** (Private Dining Room 9)
Chairman: J. Howard Pew
Secretary: R. P. Anderson

Wednesday, November 10, 1943

Morning

9:00 am **Joint Meeting:** (Room 777)
Group 2—Subcommittee on Production Valves.
Chairman: W. S. Crake
(Main) Subcommittee on Valves and Fittings.
Chairman: W. S. Crake
Special Subcommittee on 7,500-Lb. Flanges.
Chairman: F. H. Morehead

9:00 am **Central Committee on Automotive Transportation.** (Private Dining Room 7)
Chairman: Leo Huff
Secretary: D. V. Stroop

10:00 am **Committee on Uniform Methods of Oil Accounting.** (Private Dining Room 1)
Chairman: J. H. Botkin

COMMITTEE MEETINGS
Wednesday, November 10, 1943

Afternoon

12:15 pm **Committee on Motor Fuels (Luncheon).** (Private Dining Room 4)
Chairman: Conger Reynolds

4:30 pm **Nominating Committee, Division of Refining.** (Private Dining Rooms 15-16)
Chairman: J. T. McCoy
Secretary: R. P. Anderson

4:30 pm **Nominating Committee, Division of Production.** (Private Dining Rooms 15-16)
Chairman: George S. Bays
Secretary: C. A. Young

Thursday, November 11, 1943

Afternoon

12:15 pm **Joint Meeting (Luncheon):** (Private Dining Rooms 15-16)
Executive Committee (of the Central Committee on Drilling and Production Practice).
Chairman: F. E. Heath
Secretary: C. A. Young
Program Committee (of the Central Committee on Drilling and Production Practice).
Chairman: T. H. Acres
Secretary: C. A. Young

OTHER COMMITTEE MEETINGS

The following committees will meet at the time and place indicated to its members by the chairman:

Joint Meeting:
Engineers' Subcommittee on Pipe.
Chairman: H. W. Ladd
Secretary: P. A. Mills
Pipe Manufacturers' Subcommittee.
Chairman: J. Jay Dunn
Secretary: W. O. Clinedinst

Joint ASME-API Subcommittee on Volumetric Research.
Chairman: L. S. Wrightsman
Secretary: E. W. Jacobson

Engineers' Subcommittee on Tanks.
Acting Chairman: Walter Samans

Conference: Pumping-Equipment Committee Officers.
Chairman: T. E. Swigart
Secretary: W. S. Crake

ON THE WARPATH!

ROADS in the oil country—whether they are broad, permanent highways or temporary, "duration" trails—have been converted into warpaths by trucks.

A good share of these trucks are Internationals. Performance made them favorites with oil men. And the same toughness, dependability and economy that put them out in front in peacetime keep them there today.

It's a big job trucks are doing—a job that *must* be done. That means trucks must be kept in tip-top shape. International's civilian truck organization — the nation's largest company-owned truck service organization — is now a *wartime* truck service . . . more efficient than ever.

No matter what your make or model of truck, let International Service keep your trucks rolling on the warpath for Victory!

INTERNATIONAL HARVESTER COMPANY
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NEW TRUCKS— NEW ENGINES

The government has authorized the manufacture of a limited quantity of International KR-11 Heavy-Duty Trucks, for civilian hauling in essential occupations. These big new trucks will have *brand-new 450-cubic-inch engines*, tested and proved in International Half-Track military vehicles!

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California Situation Alarming, in View of Coming Pacific Offensive

West Coast production has not kept pace with demand for many months—wells cannot produce the crude the refineries need and refinery capacity is not equal to consumption demand. Prospects are that demand will increase with no additional supply in sight

By DON CARROLL, Staff Writer

SO FAR in World War II, as far as the United States is concerned, logistics planning is top-heavy in favor of providing the ways and means for the military defeat of Germany on the European continent. As a result, most of the responsibility for providing the required amounts of petroleum for this campaign has been borne by the states east of the Rockies. But one of these days the emphasis will shift to the needs of full-scale war in the Asiatic area, and the spotlight of responsibility will be focused on the West Coast, from whence must flow the military supplies for a war theater even farther removed from our shores, and covering greater spaces, than is the case in the European situation.

When that time comes, the major problem will be that of supplying the petroleum that will be consumed in fighting the Japanese in their "Greater Asia Co-Prosperity Sphere." Furthermore, the haulage distance is three times as great as it is to European and Mediterranian supply dumps, which means that far more than three times as much fuel oil will be burned per ton of munitions carried across the Pacific.

In simple geographic terminology, the West Coast petroleum industry is the producing, refining, transportation and terminal facilities of Southern California. What are their potentialities in the light of the critical role they must play in the western ocean?

The West Coast demand for crude oil has been exceeding the supply since last April, and the deficiency has been increasing steadily. The difference has been made up by withdrawals from storage that at present amount to approximately 70,000 barrels per day. To assure adequate stocks for coming months California must either increase its own production or import more oil from other states or foreign sources. PAW officials and the optimistic bloc of California operators visualize increased production from California wells of as much as 40,000 barrels daily by the end of 1944, for a total of 820,000. The facts do not support such a prediction.

In spite of the most strenuous program of wildcatting in recent years, only one major field has been discovered in California this year to the end of September, and in the meantime more and more of the state's wells are going on the pump. As late as October 4, A. C. Rubel, vice president and general manager of Union Oil Company, predicted that by the end of 1943 there will be 20,000 pumping wells in California fields. Not only are these wells going on the pump, but many of them are being forced to the limit, with disastrous results. He has estimated that 1300 more wells there will be pumpers before the end of May, 1944.

The forcing of these wells is detrimental from the standpoint of future reservoir conditions in the fields. The immediate effects are likewise evident. There is an epidemic of mechanical breakdowns. Probably not more than 40 percent of these pumping wells are on production at any given time.

So far in 1943, approximately 15 percent of the wildcat wells drilled in the United States have been successful. These figures do not apply in the case of California, however. In that state 94 percent of 1943 wildcats have been completed as dry holes—the poorest showing for any leading producing region of the country. This record may mean nothing more than a temporary run of bad luck, but for all of 1942 California posted the same score—94 to 6.

In the absence of sound arguments to the contrary we are forced to assume that California has passed its peak of discovery and production. Some 2500 new producing wells will be required in 1944 in that state, merely to offset the declining production and abandonment rate of present wells. No information has been forthcoming in recent months to justify such an expectation.

Beyond any doubt, a considerable number of major and minor fields remain to be discovered in Southern California. There are large areas of Cenozoic and Cretaceous sediments, of considerable thickness, that have not yet been explored by the drill. The reason for this is that neither surface geology nor geophysics have been successfully applied in those areas towards pointing out the existence and locations of favorable structures. Something new must be added in the way of exploratory techniques before the oil-producing potentialities of these undrilled areas can be evaluated or appraised with any reasonable degree of accuracy. Core drilling for structure is an expensive exploration method for virgin territory, and few companies can afford to underwrite adequate programs for securing the required information that will lead to scientifically approved wildcatting. It looks now as if only the wildest of wildcats and the luckiest of breaks will locate the stratigraphic trap accumulations and marine overlap pays that are almost certainly present here and there in the northern part of the San Joaquin Valley, the Salinas Basin and the Sacramento Valley, in particular. The Imperial Valley and several offshore areas, too, deserve careful testing.

California does possess important reserves, amounting to perhaps as much as 3.5 billion barrels; but these reserves

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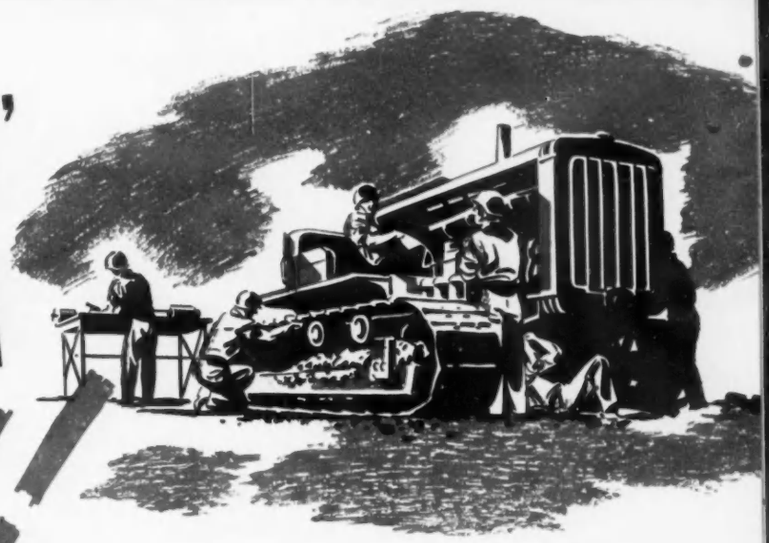

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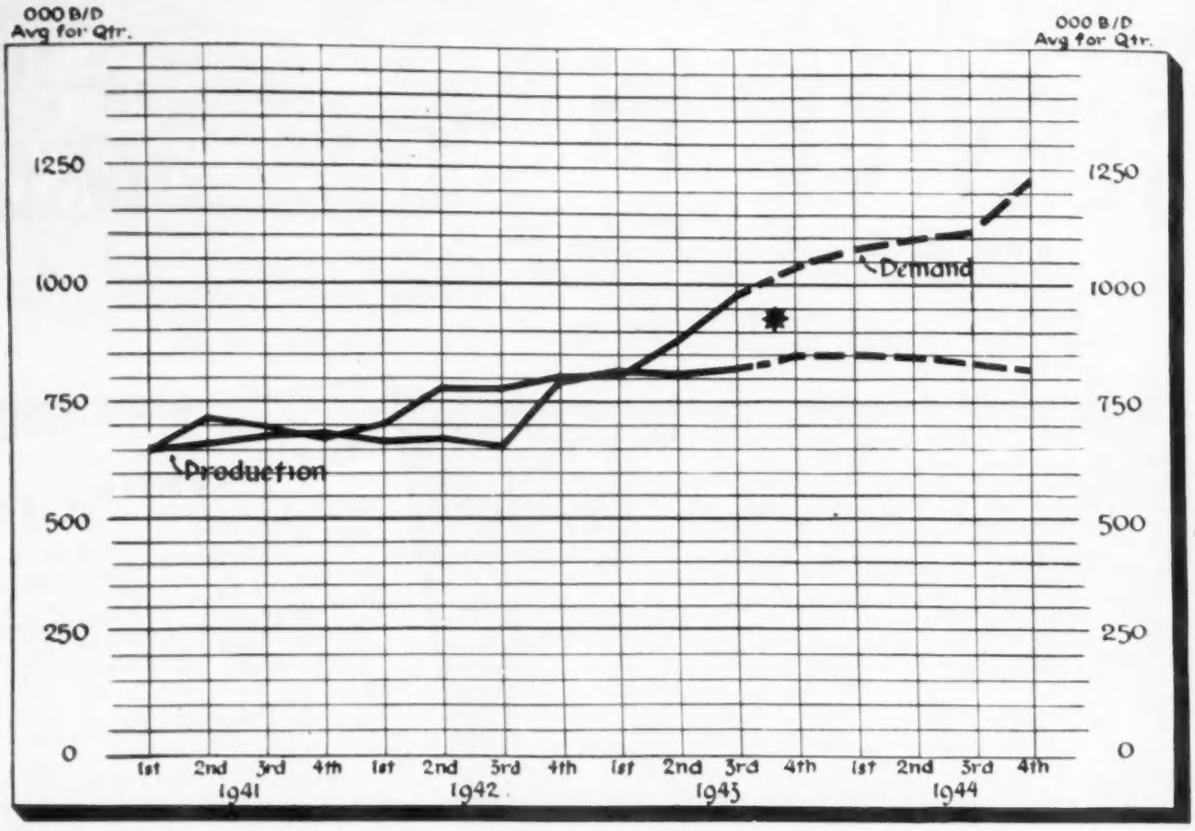
California Production of Crude Oil and Natural Gasoline Has Not Kept Pace with Demand for Many Months



• *Dashed lines for future period indicate estimated production and demand for 3rd Qtr. '43-'44 based on present rate of civilian consumption.*

Sept. 15, 1943
Petroleum Administration for War.

Prepared by Graphics Unit of Office of Executive Secretary

cannot be exploited at will. At the current rate of production, these reserves are being depleted at the rate of 10 percent each year, and the fields so represented are producing at their maximum efficient rates. Wasteful production is the most significant result. This result must be overlooked in view of the needs of the moment. California must have the oil in order to carry out its assignment in the war effort. Even so, the oil is not being run to the refineries there, as is demonstrated by the fact that their total capacities are 200,000 barrels per day more than present deliveries from all sources.

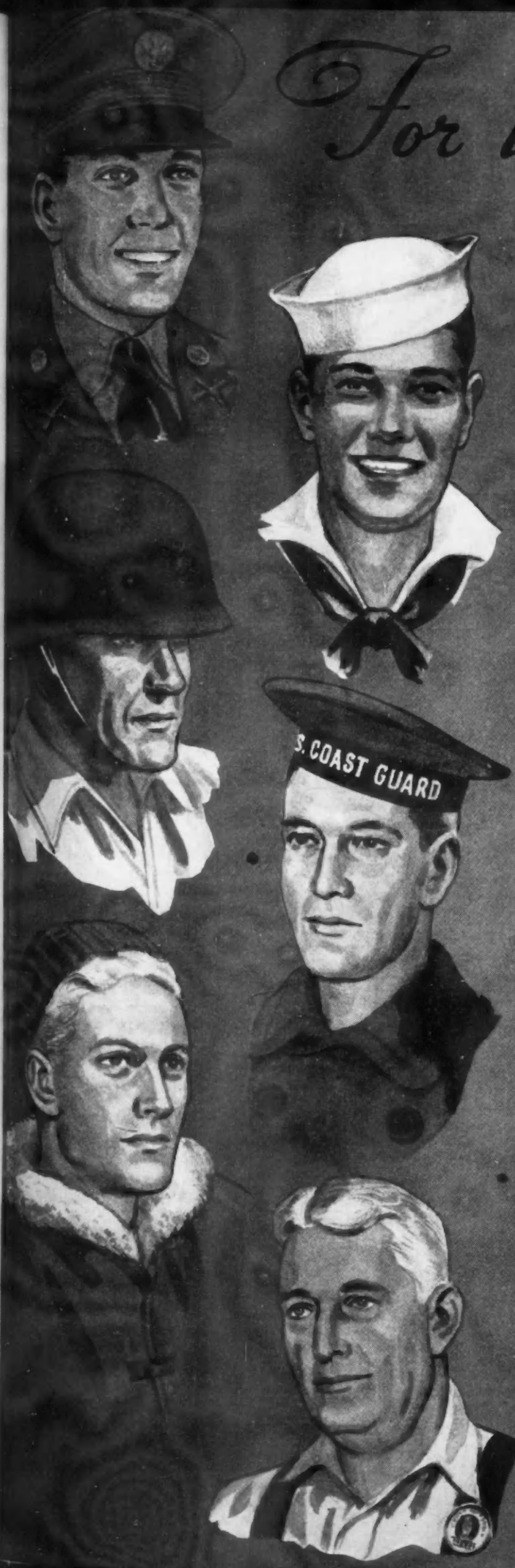
Railroad tank cars can now be progressively shifted from East Coast to West Coast runs, but this arrangement would represent only limited relief in supplying West Coast refineries, since there is no way to shift the railroad lines themselves. On present lines the added trains would make only for greater congestion.

PAW output goals assigned to California for 1943 and 1944 are far above any volume that has been attained there in the past. Nevertheless, California oil men in general were at first confident that the desired production would materialize—on the assumption that they would not be restricted in carrying out an all-out discovery and development campaign. It soon became apparent that their plans were not consistent with governmental policy, which prevented them from doing what that same government had demanded, and is still demanding, and were further discouraged by government control of prices. To search for new reserves, at costs greater than the figure at which the product can be sold, can not possibly be reconciled with the responsibility of company management for the safety of corporate capital. In addition, the thousands of California stripper wells, operating on narrow margins of profit, can only be operated on a bankruptcy basis, when operating expenses are not balanced by favorable price scales.

The approaching completion of a number of large new California refineries creates a situation that will force a showdown in the very near future, inasmuch as it is obvious that the new refineries can not be supplied with crude when existing plants are not being allocated sufficient volumes.

Obviously, California will soon need considerable outside help in supplying the needs of our armed forces in the Pacific, as well as the essential needs of industries and civilians on the West Coast. With the Mediterranean open, the Near East should soon be taking over much of the load for European operations, releasing tankers for haulage between ports on the Gulf of Mexico, or the Caribbean, and the West Coast. Then, too, it is possible to put in another pipe line, to carry West Texas oil to California. This possibility has been suggested before, but no definite plan has been announced that indicates that Washington officials are contemplating such a project.

California oil men themselves, whatever may have been their views a year



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For the inspired plans of our military leaders and the courage of the lads who carry them out . . .

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For these, we have reason indeed to be grateful: for in their strength and power lie the hopes and fate of civilization . . . Gaso Pump & Burner Mfg. Co., 902 E. First Street, Tulsa, Oklahoma. Export Office: 149 Broadway, New York. Shreveport: W. L. Somner Co., 419 Lake Street, Los Angeles: Service Oil Field Supply Co., 5333 S. Riverside Drive.

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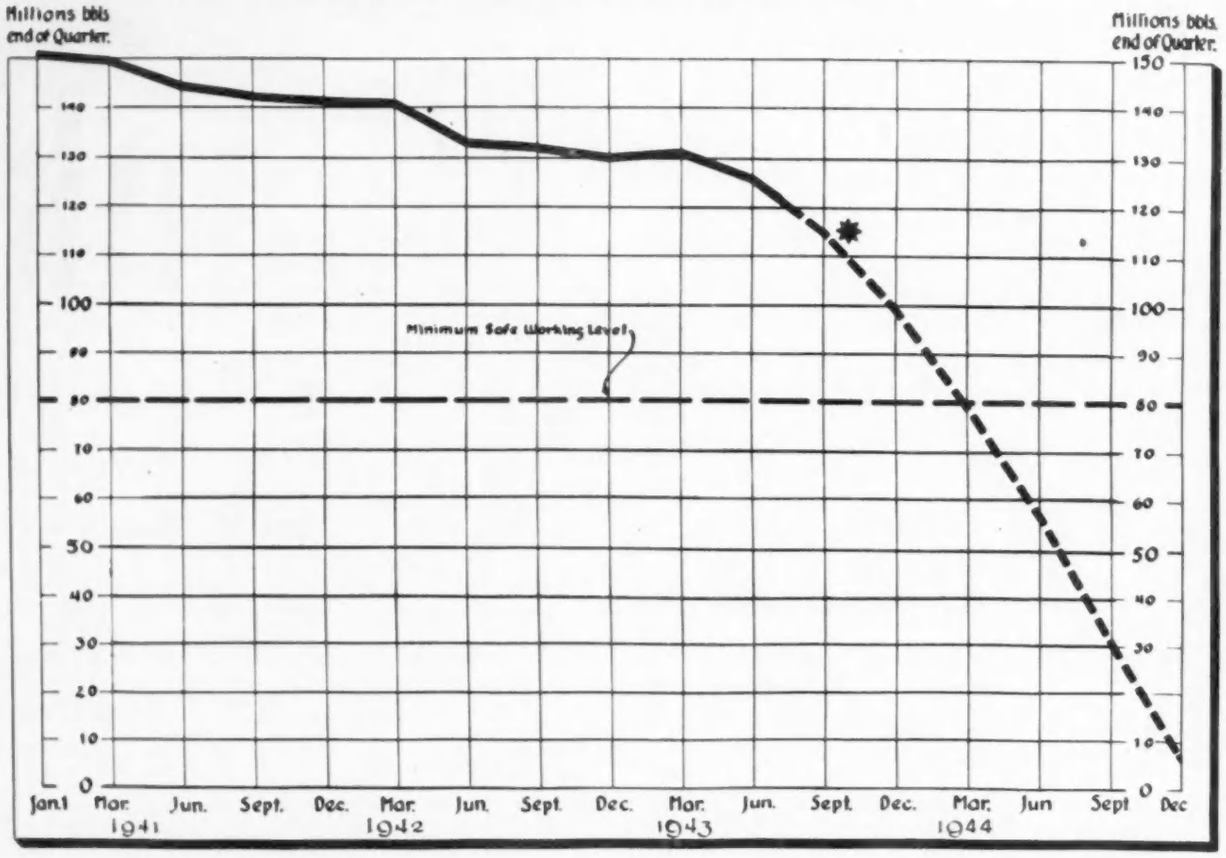
Stocks of Crude Oil and Products on the Pacific Coast Have Declined Steadily Since Pearl Harbor



* *Projected stock position unless civilian consumption is reduced and supplies are supplemented from other sources*

Sept. 15, 1943
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or more ago, now have little hope that fields of this state will be able to carry the whole burden when soaring demands of Allied warfare in and beyond the Pacific reaches its peak.

In their view the situation, which because of having entered a final phase is susceptible to close appraisal, sums up as follows: Productive capacity of California fields has now been opened up to what—under present conditions—must represent almost the maximum; that rate is far short of present requirements, to say nothing of anticipated heavier future demands, and with deficiency being made up from storage, that too must be rapidly depleted. In short, when and if demand should mount to a prophesied million-barrel-a-day figure, California probably would find it difficult to supply any more than four out of each five barrels needed.

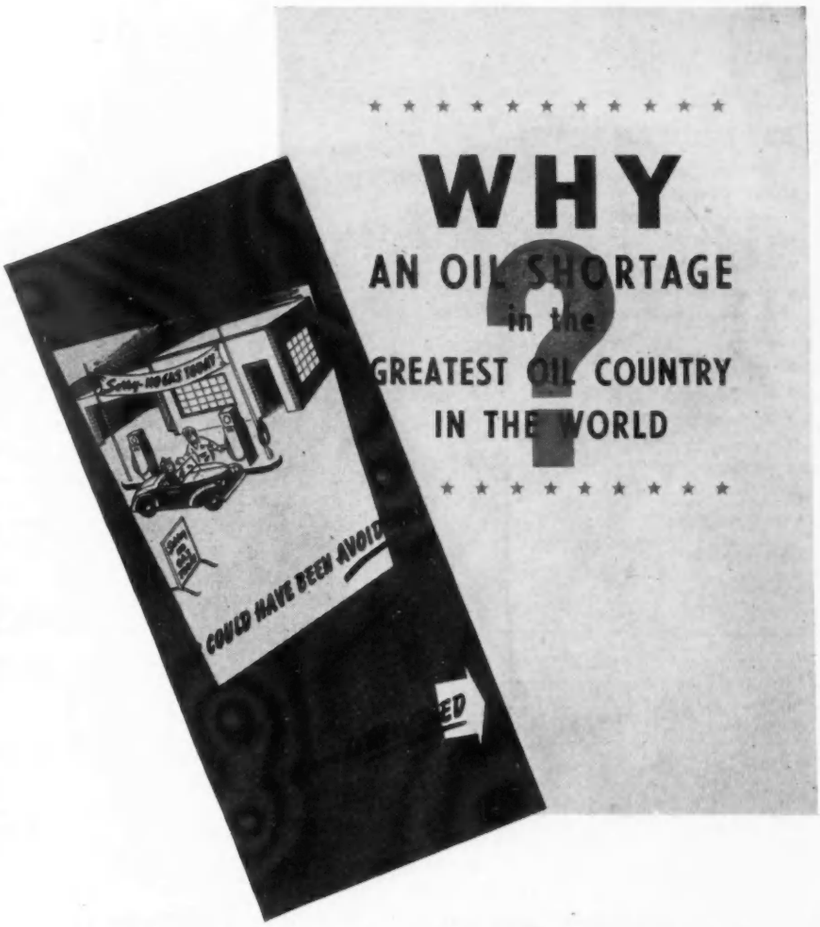
The foregoing merely says in brief what appear to be the only conclusions possible to draw from analysis of war period statistics of California new drilling, production and demand presented in detail elsewhere in this article. To fully appreciate the import of these figures it must be kept in mind that what they represent is the total accomplishment of a long-sustained and all-out effort to raise California's daily productive capacity to the highest level possible to attain. The net achievement, in terms of added production and of added reserves, is distressingly small.

The failure has not come without warning. Spokesmen for the industry in deep concern for national welfare time and again pointed out that the effort was being hopelessly mired in a tangle of interfering directives. At risk of official displeasure some bluntly told the government its course only could end in a break-down.

California operators will not accept in any degree responsibility nor blame for the outcome. They cannot be convinced that the job was not possible, could they but have had cooperation instead of obstruction. Furthermore, what was accomplished was more than fairly could have been demanded of them under the conditions imposed.

No one knows exactly how soon to expect serious effects of the impending shortage of California supplies nor what will be its magnitude. All forecasts agree, however, that shortcomings will be great and that the critical stage is rapidly approaching. It would seem a good guess that stringencies to cause considerable anxiety will develop as early as the beginning of 1944.

A development that may speed a demand-supply showdown is the approaching completion of a number of great new California refineries built expressly to provide war supplies. Probably four or five of these will be starting within 90 days. Just now puzzling all familiar with the present tight situation of the crude market is how such a great aggregate of new throughput so represented can be obtained without disruption of existing allocation of supplies.



Two of the pamphlets that have been prepared by IPAA for distribution to the consuming public. Each tells the consumer of trends and conditions in the oil industry, and in language he can understand.

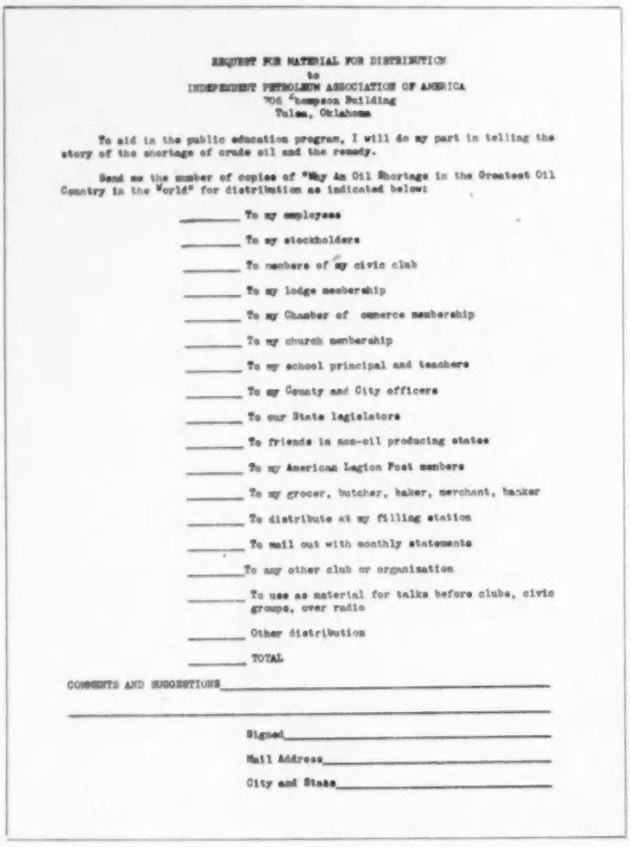
IPAA Informing the Public With Facts on Oil

By FRANK B. TAYLOR, Staff Writer

BY NO means all of the problems of the oil man of today are in the field. In fact, an increasing number are of the opinion that the big job of the industry is to clarify the position of oil in the minds of the public. With this in mind, Independent Petroleum Association of America has instigated a program of public relations with facts on oil the basic theme. In a sense the program is educational in providing a generally unconcerned and pathetically misinformed public on the simple truths of the industry. The effort has been marked with highly favorable comment from sources within and without the industry.

The necessity of some program of this nature has existed for years. The present status of petroleum as compared with other industries is a not too pleasant reflection of the inadequacy of any past effort in keeping the consuming public informed and appreciative of oil as a valuable product and aware of the industry as vital to national and economic security. This circumstance is unfortunate and unhealthy but that it exists there is little argument. It is unfortunate that the early history of the oil industry included circumstances that produced public disfavor. The result was a stigma that must be broken.

Contrary to actively endeavoring to correct the wrong impression, there has been in most but not all instances an unnecessary secrecy on the part of the industry as a means of forestalling public expression. It was felt that the "least said, the sooner mended". The reaction was not as anticipated and the secrecy only made the public more suspicious than ever, and more apt to accept anti-industry half-truths or plain lies. Only rarely was a concerted effort made to counteract these detrimental impres-



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_____ To our State legislators
_____ To friends in non-oil producing states
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_____ To my grocer, butcher, baker, merchant, banker
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COMMENTS AND SUGGESTIONS_____

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Signed_____

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City and State_____

This form is used in sending material to association members.

sions; and even less rarely were the many labor advances, public benefits, industrial and national achievements provided solely by the oil industry made known to the public.

In reality, the petroleum industry has always been a leader in wages, in providing public good, in well-planned employee relations and in general industrial advancements. The industry has constantly been supplying better products to the public at constantly lower costs despite the fact that excessive taxes have apparently nullified this progress. But the public is not aware of this. Therefore, it is necessary to inform the public not only as to the actual value of petroleum and petroleum products, but also as to the necessity of guaranteeing a stabilized petroleum industry for the future. And with gasoline and fuel-oil rationing now prevalent, the public is more receptive than ever before to cold facts, and a careful and unvarnished analysis of the present status of the oil industry.

In addition to the public attitude, there is another phase of the picture deserving scrutiny. This is the lack of awareness on the part of the public that there are more than a few oil companies. This misconception is due to the limited number of marketers of petroleum products. The consumer is used to seeing trade-marked gasoline and oils, and to him these represent the petroleum industry. It is doubtful if there are more than ½-of-1-percent of the people who know that there are 18,000 to 20,000 oil producing companies in addition to the "big" names.

The Independent Petroleum Association of America program is based upon this public conception, and is an attempt to correct it. If this can be done, the public will be better informed, will be less inclined to condemn the industry merely because it is "big"; and a better inter-industry and industry-public relationship will result. This will, in turn, result in a stable and more capable petroleum industry able to meet its own problems and those of constantly increasing demands with greater assurance.

To accomplish the end result, the public must be directly contacted. This is being done more and more through civic bodies such as chambers of commerce, other civic bodies, clubs, and other organizations. It is here, among those totally unfamiliar with the oil picture, that the most good can be done.

A primary part of the program includes the mailing of brief instruments of fact to the association membership with the understanding that these informative pamphlets will be furnished for distribution in the quantities it is possible to handle. The three mailing pieces being used, in order of their mailing, are "The Truth About Our Oil Supply", a reprint of an article which recently appeared in "Collier's"; "Why an Oil Shortage in the Greatest Oil Country in the World," with pictorially illustrated data, and "What Can be Cured—Need Not be Endured," a reprint of a recent radio address by Samuel B. Pettengill in booklet form. More than 100,000 copies of the first piece have been requested of the association, 50,000 copies of the second, and while the last mentioned piece has only recently been put into the mails, 15,000 prints have already been made.

The most expressive of the returns from the mailings are the remarks of those who have read and analyzed them in light of the program. A few of the hundreds of remarks were:

"We've told the story to ourselves long enough; it's high time we told it to the consumers."—Wyoming.

"I have been passing my reports and your letters to my banker, club members and individuals."—Indiana.

"If we felt satisfied in our own minds that no increase in crude-oil prices would be granted we would, in fairness to ourselves, sell our property. We produce and sell oil, not because of the present price, but in spite of it."—Montana.

"Will rectify wrong impression."—New Mexico.

"The Army and Navy should have this, too."—Texas.

"It is high time the entire public should know all the facts."—Oklahoma.

"Let the public know about oil."—Colorado.

". . . excellent one to counteract OPA propaganda."—Michigan.

"I consider this very necessary information for every consumer of gasoline or oil products to know."—California.

"If we can get this information to the public it should be of great importance."—Texas.

"A wise move; something we're interested in."—Ohio.

This response has indicated the association is on the right track, although the surface has just been scratched. The job is a selling one. In a sense, it is also educational. Not only the independents but the complete industry will directly benefit. The public, too, will benefit by having a better industry more capable in meeting current and future oil and gasoline requirements. The national security will be pegged at a higher level with a well-balanced oil industry than by one crippled through ill-formed public opinion or plain ignorance.

The association holds that the message must go directly to the consumer. It must be stressed that it is now his problem. And there are few in the nation who are not consumers.

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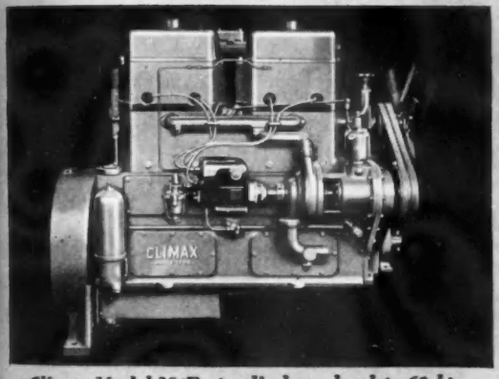

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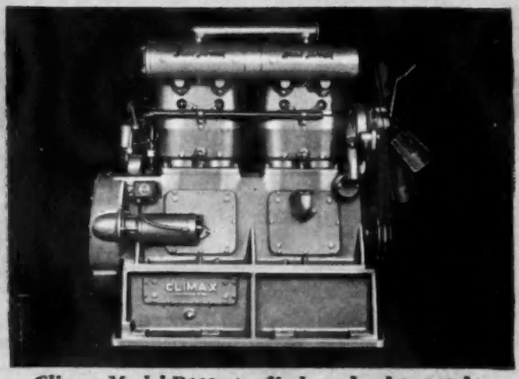

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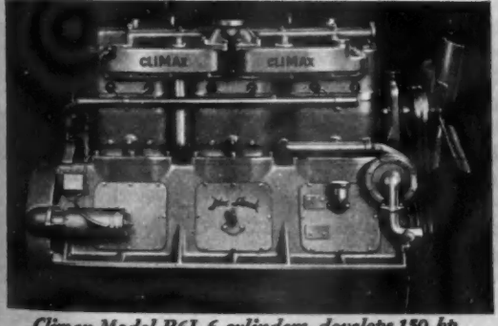
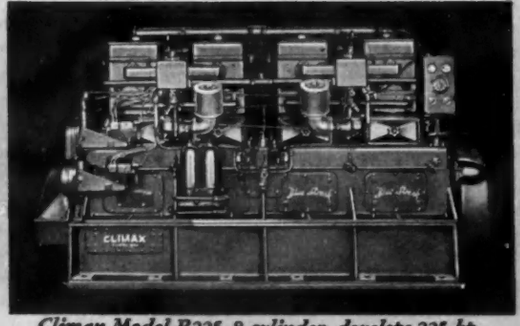


Climax Model R6I, 6 cylinders, develops 150 hp. at 1200 r.p.m.



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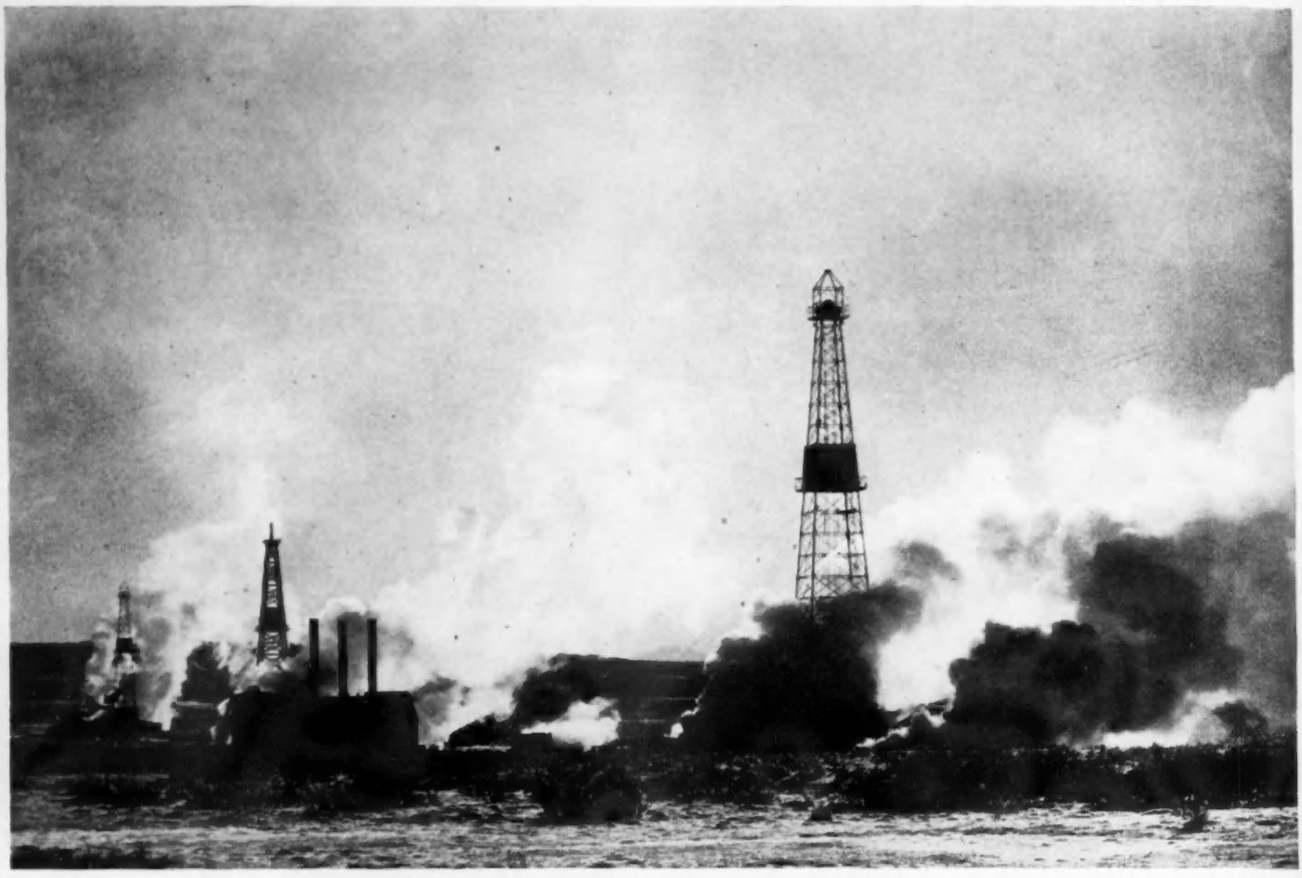

Winter Drilling Scene at Turner Valley

Canada's Wartime Oil Boom

By JAMES MONTAGNES

TO MEET the needs of an ever increasing amount of oil for wartime uses, the Canadian government has embarked on vast exploration of oil-bearing areas, has eased taxation on oil royalties and development of new oil wells, has formed a government company to help in financing exploration and drilling of new wells, in addition to rationing gasoline and fuel oil more drastically than in the United States.

Shortly after the outbreak of war in September, 1939, an inventory was made of the productive capacity of Canadian oil wells and refineries so that Canadian facilities could, as far as possible, be utilized. The output of the Turner Valley in Alberta, Canada's major oil producing area, was boosted by 27 percent to its highest practicable point, but by the end of 1942 this production rate had declined slightly.

Early in 1943 the Canadian oil controller, George R. Cottrelle, arranged for the establishment of a Crown company, Wartime Oils Limited, to provide assistance in the development of marginal deposits on the west flank of the Turner Valley. The company is currently financing about 10 projects, most of which are now drilling.

A report of the Department of Munitions and Supply, under which the oil controller's office comes, states that "no matter how successful these developments (Wartime Oils Ltd.) may become, it is likely that Canada will continue to depend on outside sources for 85 percent of the domestic requirements, and as these outside sources are being called upon to supply increasingly greater quantities of petroleum for the fighting fronts, it thus becomes necessary for Canadians to get along with as little gasoline as possible."

The demand for aviation gasoline has been rising in proportion to the increase in the use of Canadian aircraft for patrolling the sea lanes. The fuel oil requirements of the Canadian railways for their Rocky Mountain divisions have increased approximately 400,000 barrels this year, and Canada has been faced with new and heavy demands for gasoline for the Alaska highway and other contract work in the Northwest. The fuel oil demands of the Royal Canadian Navy and Merchant Marine are increasing materially.

Each summer the Canadian govern-

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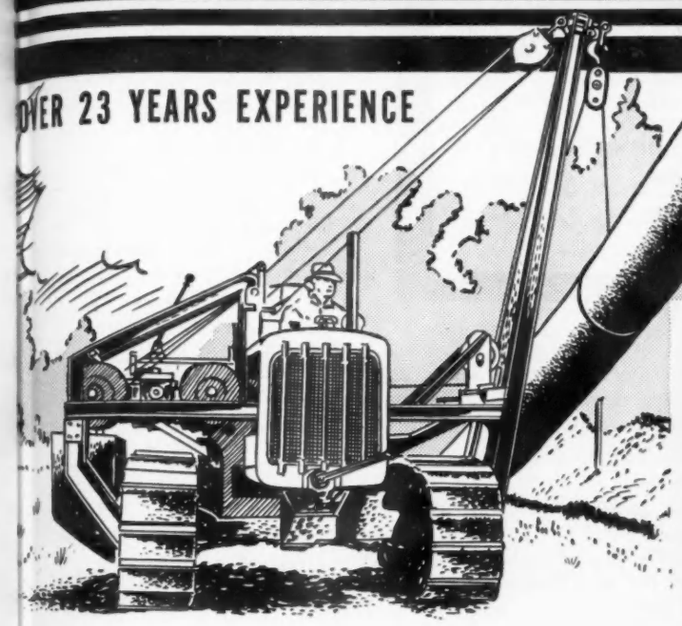

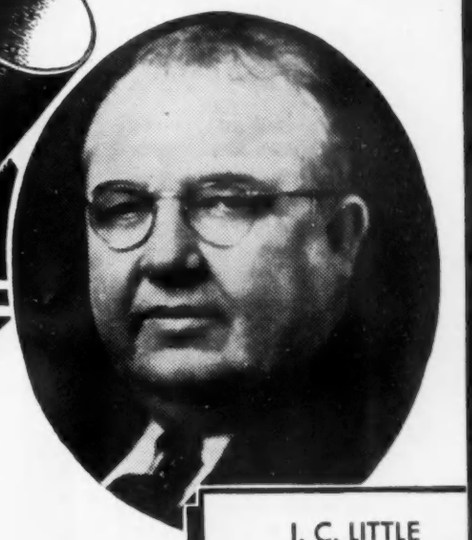

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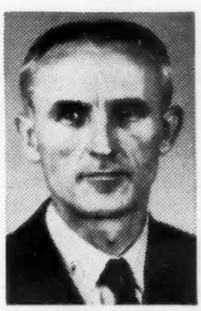
DONALD L. BEACHY
Right-of-Way Foreman



JOHN DuVALL
Accountant-Auditor

HARVEY C. GALLOWAY
Field Manager

AUBREY D. HAMILTON
Coating Foreman

HENRY C. MORRISON
Bending Foreman

The War Emergency Pipelines, familiarly known as the Big-Inch (24-inch) and the Little Big-Inch (20-inch), will be recorded as one of the greatest single home-front achievements of this war. Its benefits will be a boon to posterity.

Cooperating with our government and pipe line construction companies engaged in completing this gigantic project, I. C. Little, Contractor, penetrated one of the most precipitous mountain regions ever attempted with large diameter pipe, which was completed without a single serious accident to any employee on the construction line.

Upon completion of our first assignment of the Little Big-Inch, which was ahead of schedule, we were reassigned to construct a third section over a rough and difficult mountainous terrain in West Virginia.

In acknowledgment to our employees and government agency associates, for their loyalty and untiring efforts in the building of this line, we express our deep gratitude and the gratitude of the petroleum industry.

JACK JONES
Machine Ditch Foreman

JESSE M. BOLES
Lowering-in Foreman

JOHN REGISTER
W.E.P. Chief Inspector

L. W. VAN ORE
D.P.C. Supervising Engineer

I. C. LITTLE, Contractor

1608 MERCANTILE BANK BLDG. • • • DALLAS

OVERLAND OIL AND NATURAL GAS PIPE LINE CONSTRUCTION

ment sends out geological and topographical parties to do exploratory work in all parts of the country. Since the start of the war this survey work has naturally enough been largely for wartime purposes. Thus this year the geological survey parties included groups looking for possible oil areas in British Columbia, oil and gas fields in Southwestern Ontario, oil in the Sussex and Waterford areas of New Brunswick province in Eastern Canada, and work in Alberta. All of the geological and topographical work in Alberta was in areas which were mapped to obtain information on their oil possibilities. Pouce Coupe, Entrance, Alexo, Saunders and Athabasca areas in Alberta were investigated, while in neighboring Saskatchewan province the Fox Valley, Kindersley and Radville areas were examined and mapped. Work done in the Norman area on the Mackenzie River in the Northwest Territories, jointly with the United States government, is on the secret list.

FOOTAGE DRILLED IN ALBERTA

(Seven year period 1936-42)

	TURNER VALLEY	WILDCAT AREAS	TOTAL FOOTAGE
1936	52,693	44,211	96,904
1937	240,478	38,901	279,379
1938	303,112	60,180	363,292
1939	281,274	93,013	374,287
1940	299,611	71,436	371,047
1941	368,568	127,767	496,335
1942	250,975	250,965	501,940
7-Year Total	1,796,711	686,473	2,483,184

Of Canada's total oil production in the first half of 1943 of 5,037,870 barrels, the Turner Valley of Alberta accounted for 4,803,719 barrels, according to figures of the Dominion Bureau of Statistics, Ottawa. Thus main development is in the Turner Valley area. The rest of the Alberta fields accounted for almost 64,000 barrels in that period, but showed an increase over the same period in 1942, whereas the Turner Valley field as a whole showed a drop. Current development shows more drilling in progress in fields outside the Turner Valley, the latest figures of the Alberta Petroleum and Natural Gas Conservation Board for July 1943 showing 19 wells being actively drilled in the Turner Valley and 24 in other Alberta areas, while 2 wells completed drilling in the Turner Valley and 12 finished drilling in other areas.

Latest figures for the Taber oil field in Alberta shows production to end of August 1943 since inception in June 1942 of 107,600 barrels, most of which was produced this year. Dominion Oil Company and Nassau Explorations are principal operators in this field. Other areas which are producing oil in Alberta are the Red Coulee, Vermilion, Wainwright, Dina, Del Bonita, Lloydminster, Princess and Tilley fields. Of these the Vermilion field has been the most important, producing in 1942 63,793 barrels from 17 wells, an average of 10 barrels per well per day. At the end of August, 1943, a number of new drilling permits had been issued in that field.

In the Foothills region, outside of Turner Valley, and what was thought to be the northward extension of the field, drilling was active last year on 10 wildcat wells, the footage drilled totaling 25,184 feet as compared with 16,157 feet drilled in the same area the previous year. No commercial production was developed last year. It is interesting to note that one well, Maxmont 1, about 25 miles west of McLeod, reached a depth during the year of 9430 feet and is believed to be the deepest hole in the world drilled with a cable-tool rig.

For years Alberta oil men have been searching for a new oil field which would repeat the production of the Turner Valley field. No major new field has yet emerged but a number of smaller fields are in the making. Besides Vermilion and Taber, which show the best prospects, the Athabasca area is viewed as a real possibility, with grade of oil not high but drilling costs low. Athabasca is south of the Alberta tar sands. The Vermilion area, where the Canadian National Railways subsidiary Cannar Oils, has a number of wells, is producing oil for railroad use requiring little conditioning to make the oil of use for locomotives. Small producers can pump enough oil in this field to be profitable. It has postwar possibilities for supplying railway oil.

Bulk of oil-well drilling is for the larger oil companies but some of the best new field success has been that attending operations by the smaller independents. There are many active wildcat ventures now drilling in Alberta, and more planned. Preliminary indications suggest much further testing for new oil pools in the next few years if known fields do not provide the needed output.

Outside Alberta production of oil is confined to New Brunswick with 13,713 barrels for the first half of 1943 as compared to 12,017 barrels for the same period in 1942; Ontario, with production of 66,737 barrels in the first half of 1943 as compared to 73,865 barrels in the previous year's first six months; and the Northwest Territories, the Norman region on the Mackenzie River, where production jumped to 89,929 barrels in the first six months of this year as compared to 9674 barrels in the same period in 1942. There is no production as yet from Saskatchewan, the Gaspe Peninsula of Quebec, and the Atlantic Coast provinces of Nova Scotia and Prince Edward Island, where drilling and testing is now being done to push oil production for war purposes.

Incentive to oil exploration was given in the Canadian budget early this year, when Finance Minister J. L. Ilsley announced that pre-production expenses of any oil well may be written off against any income from it. Expenses may be written off to the extent of 40 percent the first year, 30 percent the second, 20 percent in the third year, and the remaining 10 percent in the fourth year. An increase from 15 to 25 percent in the depreciation rate to be applied to all depreciable assets used in oil production, including drilling equipment, was also announced. Legislation was passed to allow for a special wartime depletion allowance of 33-1/3 instead of the previous 20 percent in respect to royalty payments received by investors from wells spudded during the 1943-45 period.

Companies formed for exploration and drilling for oil will be allowed to accumulate exploration costs incurred in the period January 1, 1942, to March 31, 1945, and can write off such expenses against the income produced from any well they might find. All exploration costs, including geological and geophysical expenses incurred in the period, all off-property drilling expenses of dry wells spudded during the period are to be allowed as an expense or deduction against current income of the companies with the tax saving limited to 40 percent of the expenditures involved.

In addition to these tax exemptions to aid oil exploration, the government formed Wartime Oils Limited early in 1943 to help in financing oil development in the marginal areas of the Alberta Turner Valley oil field, and such financing may be extended to other fields in the search for war needed oil.

Life of Walking Beam Rockers Extended by Hard-facing Technique

Bearing surfaces of both concave and convex castings are restored to original curvature and parts are again fitted to aid old-fashioned equipment do its share toward getting out the oil—at costs and priorities but a fraction of those demanded for new replacements

By ELTON STERRETT, Staff Writer

THOUSANDS of wells still are being produced with the aid of the old-fashioned and frequently noisy walking beam; many of these units having been dug up from the lease "boneyard" and again pressed into service because wartime restrictions and shifts of more modern equipment to other wells left the old units the only type of lifting equipment still available.

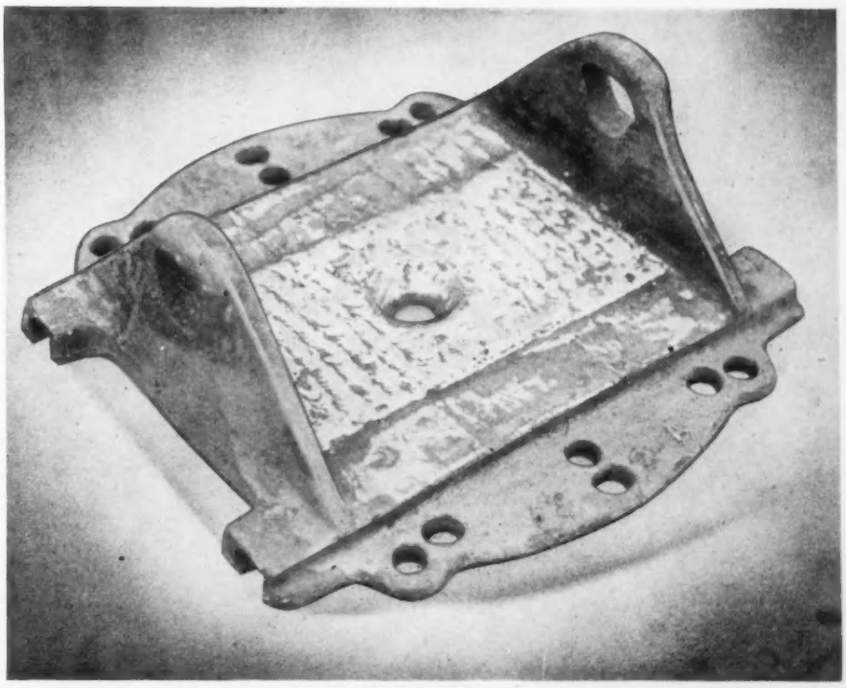
Most of the units discarded were well worn on all bearing surfaces, including the rockers which serve to support the beam. Even when, as was usually the case, new wooden beams were installed, the old rockers still bumped or imparted a jerky, uneven motion to the rod string, resulting in frequent breakage or a serious loss of potential production through the necessary slowing down of the strokes per minute to lessen the damaging effect of the bumping.

New rockers, listed at over $80.00 a pair, were indicated on most of the units scheduled for obsolescence or reworking, but the steel castings required were in direct competition with other similar castings for fighting equipment, and could not be secured in time to avoid loss of valuable production.

To recondition the old rockers, worn on the corners and throughout the hollow of the base section, seemed to be the only method whereby the beams could be made serviceable again. The cast steel, of usual foundry grade without special alloying to extend wearing qualities, was known to be readily weldable, and was built up on the low sections with mild or high-carbon steel until the original outlines were restored. Over the surfaces thus formed a single layer of hard-facing metal was applied electrically, the beads being deposited parallel to the arc of curvature in the concave bearing surface—the beads following the curve of the rocker section instead of being laid as straight lines lengthwise of the bearing area. On the cap or upper half of the rocker pair, the beads were placed as straight lines across the curve of the member, so that as the unit rocked in service each bead would in turn bear the beam load.

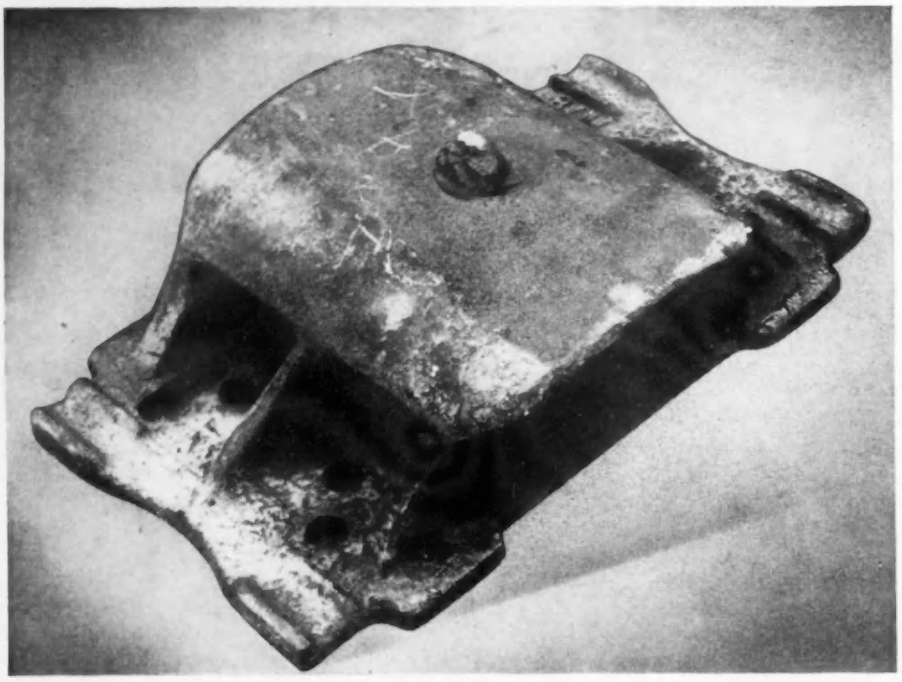
This setting of the beads at 90 degrees, so that no high spots or grooves would tend to match and thus to cause cramping of the rocking surfaces, insured uniform distribution of loading across the entire rebuilt faces of the units, and also made for longer life by preventing channeling as the parts wore down to wider bearing surfaces.

Warpage under the concentrated heating effect of the welding operation usually occurred, and was accepted as a natural sequence of the reconditioning operation; rather than the alternative of slowing down the work considerably in an effort to find some method of application whereby expansion and warping stresses could be neutralized or counterbalanced. The usual method of removing the warp in a hard-faced rocker unit consists in bringing it to a red heat, bolting it to a heavy face plate, and striking it with a heavy hammer until the metal has flowed sufficiently to restore the proper form to the bearing surfaces. The heating and straightening processes were found not to affect the hard-facing metal, while the relieving of possible stresses within the metal



The lower or concave section of a rocker set, with the worn surfaces again brought up to proper levels. The hard-facing metal laid on this casting may be observed to be applied so that in service the beads will contact those of the convex section at a 90-degree angle, preventing cramping or possible irregularity in the true rolling action of the rocker surfaces.

—Photographs Courtesy The Stoody Company



Worn so badly that the ends of each stroke subjects the lifting mechanism to severe overloads, and with the centering pin a nubbin so small it no longer prevents side play and end-plate wear, this upper or convex rocker unit can no longer be operated, even under wartime demand for production—yet more than 100 pounds of the original metal is still in place and must be scrapped if the unit be discarded.

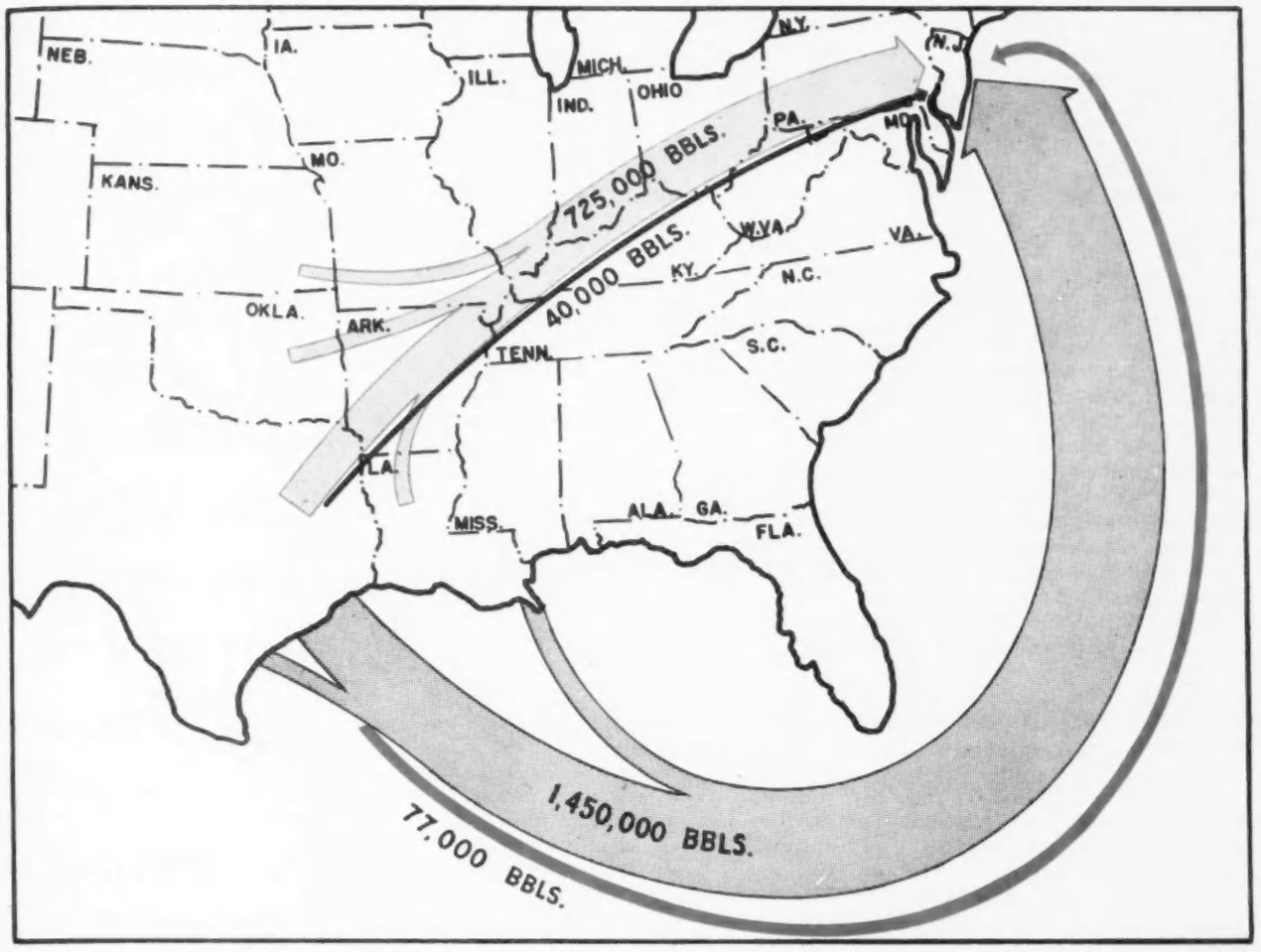
aided in protecting it against possible breakage later under the impact of heavy service loads.

Some operators thus hard-facing their rockers find that the operation extends the life of the units so that when reconditioned their operating life may be expected to run a third longer than the period through which new parts would remain serviceable. The operation of rebuilding a badly worn pair, including the addition of mild steel to approximate original contours, applying the hard-facing metal, and removing any warpage which may creep into the parts, is estimated by users as requiring about a normal day's work from a competent welder, laying from 15 to 20 pounds of ordinary electrodes and from 7 to 10 pounds of the hard-facing material.

When properly laid on, the hard-facing metal takes all the wear of the contacting surfaces, with the relatively softer mild steel backing to distribute the loading and to absorb the impact of the arcs in case well conditions or improper adjustment of the rod string or the driving mechanism impose a pound or irregular motion to the beam.

Broken castings, even when the break extends directly through the contacting surfaces, have proven usable again when welded by veeing out the break, building up to original contours with mild or high-carbon steel, and then applying the hard-facing as with a casting which has not been broken. Some operators recommend that an initial annealing of the welded unit precede the laying of the hard-facing metal, in order that any stresses locked up in the steel by the repair be dissipated or relieved so that none of the distortion from shifting or rearrangement of metal be transmitted to the relatively thin wearing surface.

The addition of 15 to 20 pounds of mild or high-carbon steel to restore original contours, and then the deposition of some 7 to 10 pounds of hard-facing metal over the wearing area, restores the apparently hopelessly worn rocker to service, with a new lease on life which may be expected to run a third longer than that obtained from the initial casting.



Oil's Transportation Miracle

By B. F. LINZ, Washington Correspondent

ONE of the most important phases of the war effort, its far-reaching effects not yet fully evaluated, will come to a successful culmination within the next few months when the last pump goes into operation on the pipe line network which the oil industry and the Petroleum Administration for War have brought into being since Pearl Harbor.

Probably no other single program will contribute more to the winning of the war than that looking to the development of a complete new overland transportation system to bring to the East the oil which formerly it received by tanker. And it may be, too, that except for the Big-Inch, to which the East looked for relief from a threatened oil famine, the general public has less conception of the vital role played by the pipe lines than it has of the part played by the more glamorously publicized airplane, tank and other programs which, without oil to provide mobility, would of themselves be of little avail in carrying the war to the enemy.

THE MAP

The broad, black arrow at sea, and the thin black line overland show quantities of oil carried by each means up to December 7, 1941. How completely the picture has been reversed is evident from the red arrow, half the width of the former sea lane, which shows present daily pipe-line throughput, and the comparatively slim red arrow of today's tanker ladings threading the sea to Eastern ports. Though not exactly to scale, and not intended to delineate actual directions traversed, the proportions of red and black arrows closely compare with the trend in oil movements.

Before the war, there was no oil problem. Motorists drove unlimited mileage at speeds their fancy dictated, never too far from a filling station with an unrestricted supply of gasoline. Householders ran their oil burners wide open. Industry had unending supplies of oil products for its various needs.

Some 260 to 275 tankers shuttled in steady procession between the Gulf and Atlantic ports, delivering at the latter some 1,450,000 barrels of oil daily, which sufficed not only for the needs of

Eastern consumers but left an excess which was moved inland largely by pipe lines.

But even in early 1941, while the war was still remote from the United States, there were men in both the industry and the government who looked into the future, and did not like what they saw.

By the summer of 1941, Petroleum Administrator (then Coordinator) Harold L. Ickes, gauging the effect of the loaning of tankers to hard-pressed Britain, warned of a possible transportation shortage which would curtail Eastern supplies and began talking of the desirability of a large pipe line from Texas to the Atlantic seaboard, pointing out what later was to become the keystone of PAW's pipe-line program, "you can't sink a pipe line."

But with the country in the midst of a feverish effort to get into shape for a war which daily came closer, Ickes was destined to get nowhere for many months, and even when the shortage which he had predicted actually occurred it was dismissed as a "shortage of surplus" by Congress and the defense agencies.

Meanwhile, however, the oil industry itself was taking tentative steps to cope with new conditions. It began to build pipe lines, and by the spring of 1942 had completed a 260-mile line between Portland, Maine, and Montreal, Canada; the 465-mile Southeastern line from Port St. Joe, Florida, to Chattanooga, Tennessee, and the 1261-mile Plantation line from Baton Rouge, Louisiana, to Greensboro, North Carolina, incidentally improving Pacific Coast transportation at the same time by conversion of the 24-26-inch Stanpac natural gas line from Kettleman Hills to San Francisco, more recently expanded to move some 125,000 barrels daily of crude.

Meanwhile, almost overnight, the pleasant picture of unrestricted motoring and unlimited supplies darkened. Pearl Harbor was attacked, the nation was in the war, and the tankers left the East Coast to enlist.

As the flow of oil to the East began to diminish, PAW and the industry went into high gear. Under PAW auspices, the industry began to plan the development of a transportation system which could substitute for the tankers and, to meet the needs of the area until that system could be built, the railroads were called upon to move the oil. The carriers responded by running oil from Texas to the East in long, high-speed, non-stop trains, increasing their deliveries from something like 5,000 barrels a day to the impressive figure of 850,000 barrels and, after Big-Inch ran to Norris City and reduced the length of the run, to more than 1,000,000 barrels. For many months the railroads were the only major link between the consuming East and the producing Southwest.

A year ago, the cutting of rail transportation at only a couple of strategic points would have immobilized Eastern transportation, chilled Eastern homes and rendered impossible the military campaigns which have carried our troops into Italy.

Today, the cutting of rail facilities would be painful, but it would not slow up military activities, shut down factories, halt essential transportation or result in great suffering from cold.

That is the immediate result of the pipe-line program; there are others of even more far-reaching consequence.

The story of the cooperative program developed and carried out by the industry and the government logically divided into three chapters: The plan, the achievement, the effect.

The Plan

The plan for an underground oil-transportation network, safe from enemy attack and the fury of the elements, did not spring forth full-fledged from the brain of any one man, nor did it suddenly emerge in perfect form.

Instead, it was the product of intensive study, lengthy consideration and careful plotting by the pipe-line management subcommittee and the pipe-line engineering subcommittee, made up of two men from each of Districts 1, 2 and 3 who worked on the basis that "transportation doesn't know district lines."

Working with these two six-man groups were the tank-car subcommittee and the barge subcommittee, the local district committees, and as progress was made the Petroleum Industry War Council, always with PAW, and more particularly Transportation Director J. R. Parten and his staff, providing counsel and support.

Out of the efforts of these several groups finally developed a list of projects for the laying of new pipe lines and the relocation, reversal, conversion and interconnection of existing lines; a flexible program which later was to be expanded, curtailed and revised as demanded by the exigencies of a constantly changing situation.

Then followed one of the most difficult tasks involved in the whole project—that of convincing disagreeing interests in the industry and the government agencies from which money and materials must come of the grave necessity for quickly changing the transportation pattern.

PAW officials went before the Office of Production Management, the Supply Priorities and Allocations Board and the War Production Board, as one agency succeeded another, during the days the war program was being whipped into shape, with a plea for the steel with which to build the lines. For months their only supporter in those quarters was Leon Henderson, price administrator, and it was not until May, 1942, that, forced by the growing scarcity of oil—tanker deliveries had dropped from 1,418,000 barrels daily the preceding December to 479,000 barrels in April and were destined to fall to 77,000 barrels within the next 12 months—WPB reconsidered its position and gave pipe lines the green light.

Meanwhile, Parten and the subcommittee members also were working on the industry, where in some quarters there was an understandable reluctance to adopt a program which it was seen might seriously and permanently affect the industry's whole economy, and succeeded in getting a united front at about the same time that WPB reversed itself.

The stage was set for the next chapter, the achievement of the goal.

The Achievement

The reversal, interconnection, relocation and conversion of a number of pipe lines of varying lengths and capacities and the building of two entirely new lines into a system which channeled the oil of Texas into a steady flow of some 725,000 barrels daily to the Atlantic Coast, all to be finished and in capacity operation within the brief span of two years, was a demonstration of the industry's ability, under the spur of necessity, to do the impossible and achieve the miraculous.

That it is being accomplished is a tribute not only to the men who planned, engineered and supervised the program, but to the pipe-line contractors of the country as well.

Every contractor in the United States who had equipment of adequate capacities shared in the construction of the Big-Inch and Little-Big-Inch, which went along simultaneously with the other 16 major projects.

Six of the projects were financed by the government, and the industry set up new corporations to build and operate three of them, War Emergency Pipelines, Inc., for the Big-Inch and its companion products line, and the Trans-Florida Pipe Line Corporation for the line across Florida.

All told, the government was to spend $187,000,000 and the industry itself $69,000,000 in the development of a 10,888-mile underground transportation system, involving the construction of approximately 4,000 miles of new line, the reversing and converting of some 3250

Baash-Ross News

BAASH-ROSS TOOL COMPANY · LOS ANGELES · HOUSTON · NEW YORK

OIL WEEKLY EDITION

Another BAASH-ROSS Advancement

Fig. 1*. Above Block with cover removed showing offset arrangement of sheave for outside fast line.

Fig. 2*. Straight-in-line Block for rigs with fast line inside.

A UNITIZED CROWN BLOCK FOR PORTABLE RIGS!

Simplifies line reaving—

Eliminates "fleet angle"—

Assures vertical travel of blocks

WITH the steadily increasing emphasis on portable rig operations, the Baash-Ross organization, working in close conjunction with oil company engineers, has developed a new type of Crown Block for portable rigs . . . a Crown Block that embodies the most advanced developments in the field and offers unique advantages found in no other similar unit. It is rugged, extremely compact, and is so designed that simple over-and-over reaving is employed. This eliminates cross-over of the lines and insures the traveling blocks rising and falling in a straight line without drift or "fleet angle"—a vital advantage in the cramped quarters of portable masts!

Check over these features...

STRAIGHT-IN-LINE ASSEMBLY

In contrast to conventional portable crowns, the sheaves in the Baash-Ross Block are mounted "in line" so that all drilling lines are parallel and in the same plane as they feed to and from the block. Note in the diagram at left how this eliminates twisting and drifting of the traveling blocks as they move up and down the derrick. This same feature also eliminates "pull-back" from the center of the derrick, assuring true vertical block travel without risk of striking the inside bracing of rig or finger board—a particularly valuable safeguard in all portable rig operations. This feature also greatly speeds up pipe handling. The derrick man does not have to "fight" twisting, drifting blocks when handling the pipe, and the floor men do not have to work against the off-center swinging of the pipe as the blocks are raised and lowered.

DIRECT CARRY-OVER OF FAST LINE

The Baash-Ross Crown is available in two basic styles*—one a straight-in-line type for rigs where the fast line comes down the inside of the derrick (fig. 2). . . . and the other a type particularly engineered for rigs where the fast line leads to the draw-works outside the rig (fig. 1). In this latter type, the fast line sheave is larger in diameter than the others and is mounted eccentrically with respect to the bearing shaft for the other sheaves. This enables the larger sheave to be tangent to the other sheaves on the inside of the rig, but sufficiently offset on the back side to carry the fast line completely clear of the outside of the derrick. Thus, it provides the same in-line advantages, yet carries the fast line outside the derrick without extra sheaves or complicated reaving. And because the fast line sheave is larger, its rotational speed is substantially reduced instead of increased as with conventional auxiliary sheave arrangements!

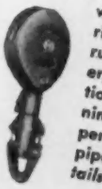
UNIT-BUILT CONSTRUCTION

To assure simplicity of installation and rigid sheave alignment, the Block is built as a unit, and can be installed and removed as a unit. In addition, spacer plates are eliminated and, by direct abutment of the stationary inner bearing races, all sheaves are spaced the same as the traveling block sheaves. This eliminates "fan out" of lines, reduces line wear, and prevents side motion of blocks. Heavy duty double row tapered roller bearings carry the load and each bearing is lubricated through individual grease ducts drilled through the center pin. A grease seal conserves lubricant and prevents grit and moisture from reaching the bearings.

WIDE RANGE OF SIZES

The Baash-Ross Unitized Crown Block has a capacity of 35 tons per sheave and is available in any number of sheaves desired. Thus, a wide range of sizes is available to meet the requirements of any portable rig operations. The sheaves are of alloy steel, flame hardened, and grooved for 1" to 1¼" lines, as specified.

RUNNING MATE to the Baash-Ross Unitized Crown Block is the Baash-Ross Unitized Block . . . a traveling block that combines block and link adapter (or hook) in one compact, space saving, easy-to-handle unit. Adds extra feet of working height to portable rigs, enabling pipe to be run in and out of hole faster, speeding up floor operations, reducing risk of running into crown and often permitting the use of longer pipe lengths. *Write for details on this advancement!*



*** The two types of Baash-Ross Unitized Crown Blocks illustrated above are only typical of the wide range of designs available to meet the special requirements of any portable drilling or service rig. Write our engineering department for full particulars on a Unitized Crown to meet *your* requirements!**

IT'S STILL A TOUGH JOB
BUT
VICTORY WILL COME

All of us must work for those who fight, that all of us may win. It's no time to let down, no time to be complacent. Lives of our boys are at stake. No less than our best is good enough for them.

Materials are scarce, the old must be used to the end of their usefulness. As always, SPANG CABLE TOOLS are giving a full measure of service. After the war they'll be better still, and there will be plenty of them too.

SPANG & COMPANY BUTLER, PA.

SPECIFY Spang
The Biggest Name in CABLE TOOLS

miles and the disinterring and relocating of another 3250 miles.

The Program

Stripped of details, the projects comprising the program were as follows:

Project I

Increasing crude movements north and east from Texas by enlarging existing systems and reversing Tuscarora (all industry financed).

(A) Texas Into Oklahoma.

1. Reversal and increasing capacity of Texas line from Port Arthur to Stuart, Oklahoma.

2. Increasing capacity of Stanolind line from Graford, Texas, to Healdton, Oklahoma, and construction of connecting line to Hewitt, Oklahoma, by Oklahome Pipe Line Company.

(B) Oklahoma and Kansas to Illinois.

1. Increasing capacity of Texas-Empire between Cushing, Oklahoma, and Chicago, Illinois.

2. Increasing capacity of Stanolind from Kansas City, Missouri, to Chicago, Illinois.

3. Increasing capacity of Ajax line from Tulsa, Oklahoma, to Wood River, Illinois.

4. Replacing of several river crossings by Shell and Stanolind.

(C) Illinois to East Coast.

1. Increasing capacity of Buckeye between Mantua, Ohio, and Cooks Ferry, Pennsylvania.

2. Laying of 152-mile line by Illinois paralleling the Lima-East Sparta, Ohio, line.

3. Reversal and conversion to crude oil service of Tuscarora's line between Negley, Ohio, and Bayway, New Jersey.

4. Four other lines in Pennsylvania, including National Transit, Northern, Tide Water, and Southern, increasing capacity to bring crude to East Coast.

Project II

Plantation Pipe Line projects.

(A) Increasing capacity of Plantation Line between Baton Rouge and Greensboro by fourteen new booster stations. Privately financed at cost of $4,000,000.

(B) Bayou Line — construction of 304 miles between Baytown and Baton Rouge to feed 60,000 barrels daily of products to Plantation. Privately financed at cost of $7,400,000.

(C) Construction of 175-mile extension of Plantation Line from Greensboro to Richmond. Government financed at cost of $4,500,000.

Project III

Ohio Emergency Line and reversal of Sun-Susquehanna Line.

Construction of 82 miles of emergency line from Fostoria to Akron, Ohio (government financed at cost of $1,200,000) and 29-mile extension to Sun-Susquehanna Line to Philadelphia which was reversed. Standard of Ohio, Shell, and Standard of Indiana made the necessary extensions, connections, and rearrangements to provide a through products line from Wood River, Illinois, to the East Coast.

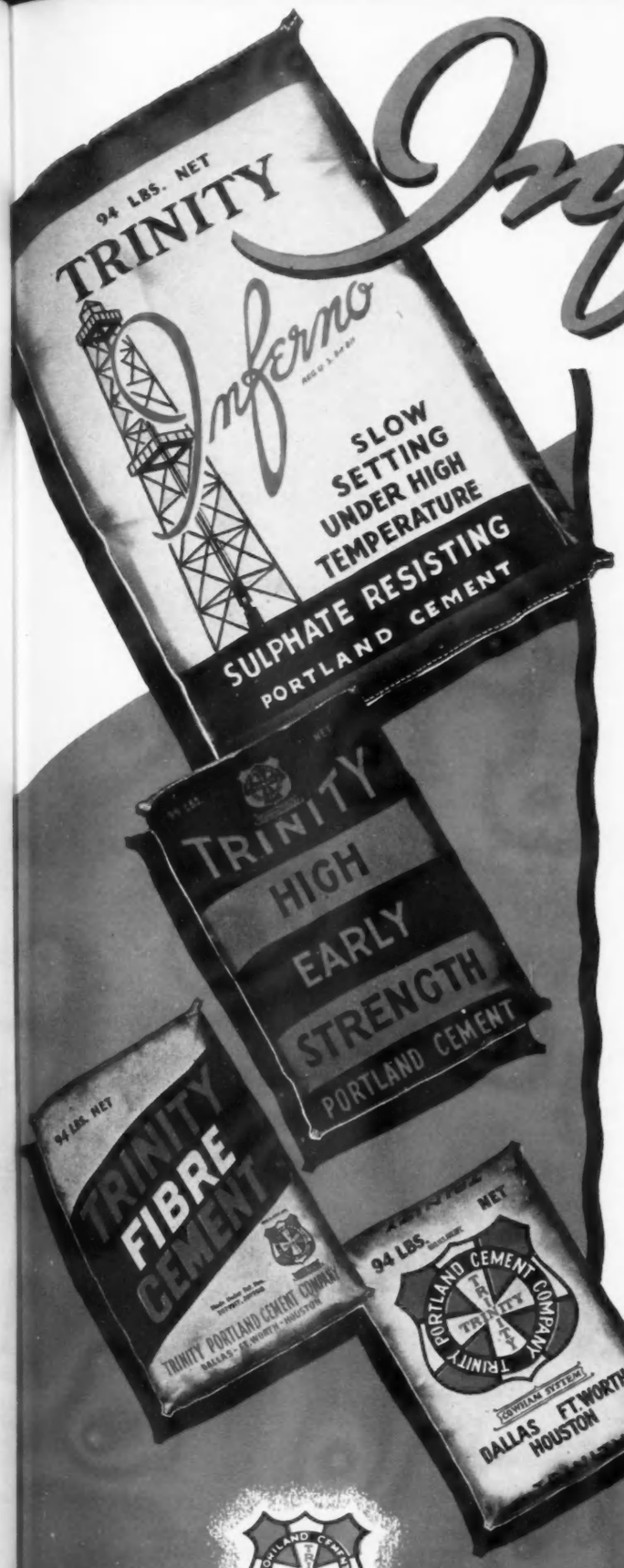
Project IV

Reversal of Keystone Line from Pittsburgh eastward and construction of Sinclair Line from Philadelphia to Steubenville, Ohio (all industry financed).

(A) Keystone-Atlantic gasoline line from Philadelphia to Pittsburgh reversed and converted to crude.

(B) Construction of 110-mile exten-

TRINITY *Inferno* CEMENT



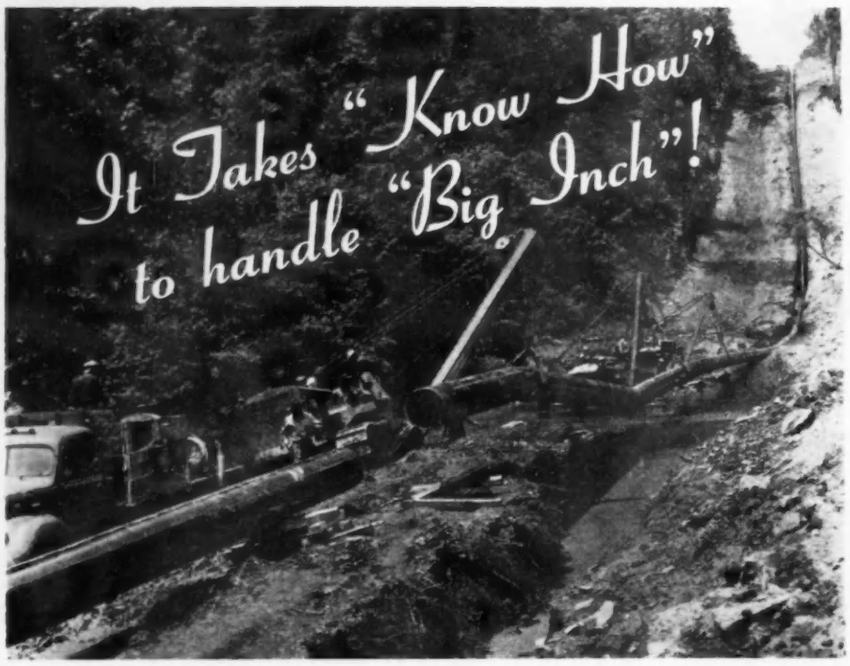
TRINITY INFERNO is made to meet the Oil Industry's need for speed, safety and control in oil well cementing operations at all depths. A scientifically controlled setting time eliminates the cementing dangers of high temperatures and pressures . . . is low cost insurance against unexpected trouble.

Easily mixed to a smooth 16.0 to 17.0 pound slurry, Trinity *Inferno* has a low initial viscosity which does not increase during the pumping period. It can be squeezed and resqueezed on stage jobs and still remain pumpable in drill pipe or tubing. *Inferno's* quick high compressive strength makes it practical to drill out safely without unnecessary and costly delay. Greater density assures a permanent shut-off.

Trinity *Inferno* gives maximum efficiency and protection on all cementing jobs . . . plus a proved margin of safety on the tough ones. Specify Trinity *Inferno.* The only cement manufactured under the HOWCO patents.

BACK THE ATTACK—BUY WAR BONDS

There's a
TRINITY CEMENT
for
EVERY OIL FIELD NEED



This is the kind of terrain WEP, Inc. entrusted to Whitaker Men in awarding the final 857-mile pipe line extension to the Eastern Seaboard. Here a Whitaker crew is speeding "big-inch" across the hills and streams of Pennsylvania.

WHITAKER PIPE LINE CREWS

Will *Know How* to Handle Your Toughest Pipe Line Assignment

THE ENTIRE WHITAKER ORGANIZATION **is justly proud of the confidence which WEP, Inc. expressed by awarding this company the toughest sections of this final extension to the Atlantic Seaboard—across the rock-ribbed mountains and boggy ravines of Pennsylvania and New Jersey.**

TO WHITAKER MEN, **even such assignments as this are "history." Equipped as they are with the latest methods and specialized equipment, Whitaker crews push on through with record breaking speed, no matter how tough the going may get.**

MANY OF THE FOREMOST OIL COMPANIES **of America have used Whitaker service—and they will all tell you: "You can depend on Whitaker for first class construction and speedy completion!"**

For Dependable Pipe Line Service, Consult

O. C. WHITAKER CO.

Pipe Line and Electric Welding Contractors for New Construction, Reconditioning & Taking Up Oil Lines.

General Offices:
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Office and Warehouse:
3300 Navigation Blvd.
HOUSTON, TEXAS

OVER 20 YEARS CONTINUOUS PIPE LINE EXPERIENCE

sion of Sinclair Philadelphia-Pittsburgh products line to Steubenville, Ohio. That part of line from Schaefferstown, Pennsylvania, to Steubenville was reversed to eastward service. Branch from Schaefferstown, Pennsylvania, to Baltimore was extended to Washington, D. C.

(C) Buffalo-Keystone Line between Buffalo and Rochester reversed.

Project V

Helena Line.

Construction of 158-mile 10-inch line from El Dorado to Helena, Arkansas. Privately financed at cost of $3,700,000. Two lines from Port Arthur were reversed (one of which was converted) and numerous extensions laid to provide adequate feeder capacity at El Dorado. From Helena, products are barged up the Mississippi and Ohio Rivers to the Cincinnati-Pittsburgh area.

Projects VI and X

War Emergency 20-inch products line from Beaumont, Texas, to East Coast (government financed at cost of $75,000,000). 1,640 miles of new construction, including 61-mile line from Beaumont to Baytown, 60 miles of feeder lines connecting refineries in Baytown area, and 51 miles of lines in Beaumont area.

Project VIII

War Emergency 24-inch crude line from Longview, Texas, to New York-Philadelphia area (government financed at cost of $95,000,000). 1,253 miles of 24-inch pipe, 111 miles of 20-inch pipe, and an extensive feeder system. From Phoenixville, Pennsylvania, 20-inch extensions to Philadelphia and Linden, New Jersey, from which points refineries are served by short delivery lines. To feed Big-Inch WEP built 50 miles of short links to handle different grades of crude and four companies reversed their lines from Gulf Coast (Sun, Pan American, Shell and Atlantic). Several other projects in Texas will either feed 24-inch line ultimately or will replace crude going into it.

Project XII

Trans-Florida Line (government financed at cost of $4,200,000).

200-mile 8-inch line from Carrabelle to Jacksonville, Florida. Fed by barge on Gulf Intracoastal Waterway.

Project XIII

Sinclair's line from Corpus Christi to Houston.

150-mile 8-inch new line from Corpus Christi to Damon Mound built by Sinclair at cost of $3,000,000 to supply Southwest Texas crude to Houston refinery area to replace crude diverted from East Texas to Big-Inch.

Project XIV

Texas Company's line from Paradis, Louisiana, to Port Arthur, Texas.

226-mile 8- and 10-inch new line from Paradis, Louisiana, to Port Arthur, Texas, built by Texas Pipe Line Company at cost of $5,500,000 to bring special Louisiana crudes to Texas' refinery for manufacture of butadiene and 100-octane gasoline.

Project XV

Products line from Cushing to Barnsdall, Oklahoma, and increasing capacity of Great Lakes Pipe Line (all industry financed).

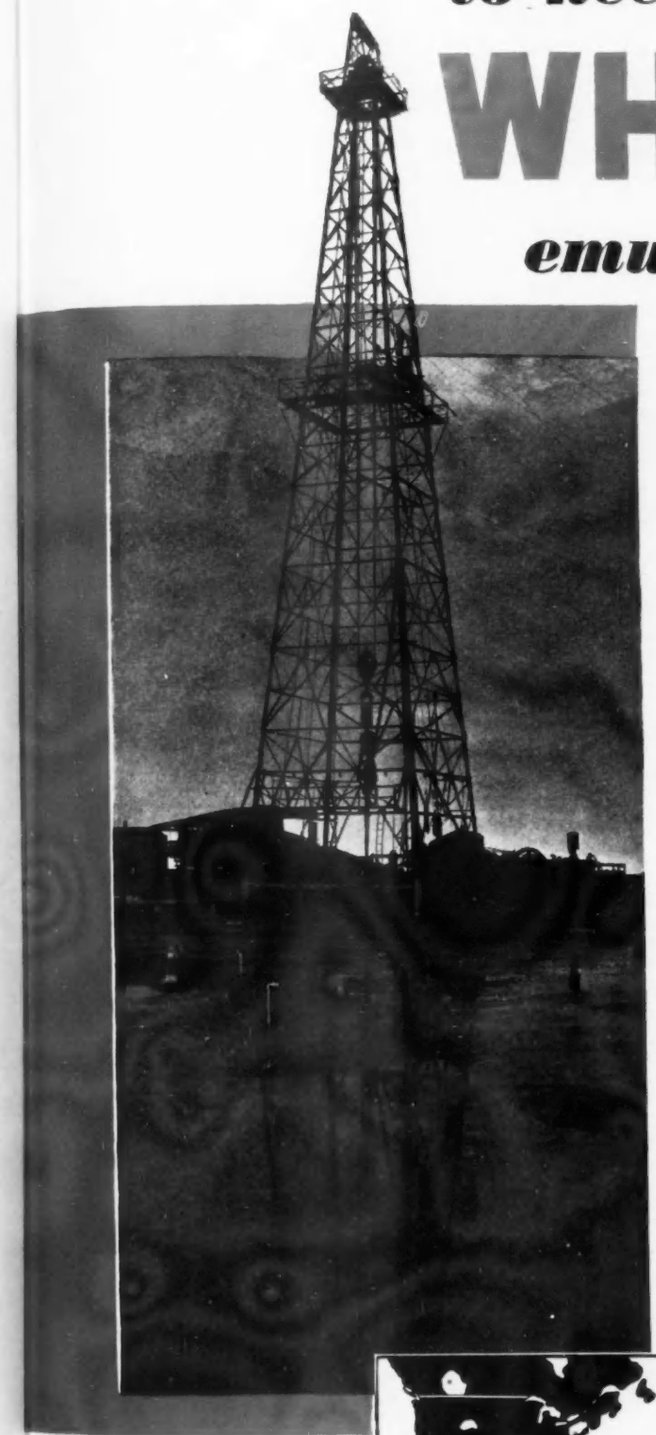
65 miles of new line from Cushing-Drumright area to Barnsdall, Okla-

HOW

to keep treating costs down

WHEN

emulsion troubles develop



USE TRET-O-LITE

Tret-O-lite dehydrating compounds have been treating emulsified crudes in domestic and foreign oil fields for many years. When you rely on Tret-O-lite for dehydration, as most producers do, you are assured of reliable compounds and dependable service. For any emulsion problem, get in touch with your Tret-O-lite representative.

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Webster Groves, St. Louis County, Mo. • Los Angeles, Calif.

Complete Service for Every Field

Oil is Ammunition–Treat it Right

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DEHYDRATING **DESALTING**

FOR DISTINGUISHED SERVICE...

IN line of duty . . . and beyond, in recognition of the unswerving courage and determination of the petroleum industry in supplying the precious life-blood of our armored forces to the United States and her allies.

The Banks of Fort Worth are proud of the honor of serving such an industry and stand ever ready with long experience and complete facilities to finance any phase of the oil business.

THE FIRST NATIONAL BANK
THE FORT WORTH NATIONAL BANK
CONTINENTAL NATIONAL BANK
OF FORT WORTH

★ *They're Fighting Harder Than Ever — Are You Buying More Bonds Than Ever?*

homa, to connect with Great Lakes Pipe Line extending to Minneapolis and Chicago at cost of $1,000,000. Line subsequently purchased by Great Lakes Company which handles additional gasoline through installation of eight new booster stations between Kansas City and Minneapolis.

Project XVI

Southwest Emergency Pipe Line (government financed at cost of $7,225,000).

Purchase, reconditioning, and conversion to crude service of 150 miles of 14- and 16-inch natural gas line from Refugio to Pierce Junction, Texas; construction of 26-mile 12-inch extension from Pierce Junction to Houston; 8 miles of line to connect with Shell's refinery at Houston; terminal facilities at Houston; and 3 miles of 12-inch line at Refugio. Carrying capacity 75,000 barrels daily. Three lines between Refugio and Corpus Christi reversed or extended to feed Southwest Texas crude at Refugio and two lines reversed from Ingleside, Texas, to feed West Texas crude at Refugio (West Texas crude is brought to Ingleside from Kemper, Texas, through the Humble Pipe Line). Crude will be transported from Houston through reversed Pan American and Shell lines to 24-inch WEP at Longview.

Project XVII

New crude line from Houston to Huffman, Texas, and reversal of line from Huffman to Smiths Bluff.

Construction of 29-mile 12-inch new line from Houston to Huffman, Texas, by Sinclair at cost of $900,000 and reversal of Sinclair line from Huffman to Smiths Bluff, Texas, where it connects with Atlantic's reversed line from Atreco to Longview. Part of Corpus Chrisi crude reaching Houston will be taken through this new system to the Big-Inch line.

Project XVIII

Crude oil line from Southeastern Louisiana to Baton Rouge.

Construction of 109 miles of main line and 24 miles of feeder lines from Golden Meadows field near the Gulf to refinery at Baton Rouge by Standard of Louisiana at cost of $1,500,000.

Project XIX

Enlargement of Stanolind's crude line between Mexia, Texas, and Humboldt, Kansas (privately financed).

Seven 8- and 10-inch loops laid between Mexia, Texas, and Blake, Oklahoma, and additional pumping equipment installed at stations.

Project XX

Products line from East Chicago, Indiana, to Toledo, Ohio.

Construction of 250-mile 8-inch products line from East Chicago, Indiana, to Toledo, Ohio, by Sinclair at cost of $6,000,000. Line will eliminate tanker movement via Lake Michigan and other waterways to Toledo.

Project XXI

Stanolind's line from West Texas to Drumright, Oklahoma.

Construction of 385-mile 16-inch crude line from Slaughter field, West Texas, to Drumright, Oklahoma, by Stanolind at cost of $4,000,000 to connect line with existing lines extending north to Chicago and St. Louis refining areas. Capacity 65,000 barrels daily. Seven ad-

25 Years of Pipelining

TOM JONES, Senior Partner of Oklahoma Contracting Company, completed his first pipeline twenty-five years ago. Has laid thousands of miles of pipe since that time and built an organization of hundreds of people.

"You know, a fellow gets some mighty good experience during twenty-five years of pipelining. He has a chance to prove his ideas and test his ability, and above all to see the results of his handiwork. Looking back over twenty-five years of pipelining, I'm proud to have had the opportunity of laying thousands of miles of pipeline throughout this country, and to have had the chance to see pipelining become one of America's greatest essential industries.

"Ours has been a responsible part in this vital activity—a part we have taken seriously and conscientiously. The reputation this company has for excellent performance is not due to the ability of one man, but to the outstanding ability and cooperation of each member of this organization. The policy is to 'give our very best' at all times, and to every job. This, we believe, is the least we can do for the confidence placed in us. As a result, every pipeline project handled by the Oklahoma Contracting Company is tops—a tribute to twenty-five years of pipeline experience!"

—TOM JONES
Senior Partner

PAUL R. HALBERT, partner, is the mechanical genius behind efficient Oklahoma Contracting crews.

NELSON K. McFARLAND, partner, is in charge of Cincinnati office and WEP operations.

T. A. HESTER, partner and superintendent of construction, majored in Law but decided to make pipelining his career.

MRS. CHAS. MORELAND, partner and office manager, is able assistant to Mr. Tom Jones.

OKLAHOMA CONTRACTING COMPANY

DALLAS, TEXAS

GATKE Brake Blocks Pay Double NOW!

The *Extra Performance Qualities* of GATKE Brake Blocks *are life savers* in these days of critical man power and material shortage.

The *great holding power* with *smooth, non-grabbing action* at all depths gets the job done *quicker* with reduced strain on men and equipment.

Long wear life with reduced flange wear facilitates *continuous* operation and *avoids maintenance.*

Avoid substitutes. Your Rig Manufacturers have GATKE Brake Lining that's engineered for the job.

GATKE Brake Blocks are made in many types to meet all service requirements of Oil Field Equipment.

Their Extra Performance Qualities result from nearly 30 years specialized development to meet changing requirements of Oil Field Service.

When your rig is GATKE-equipped, you have the best.

GATKE CORPORATION
228 N. LaSalle St. Chicago 1, Ill.

Egan WATER CANS and COOLERS

Made of copper alloy iron, with recessed bottom and of triple braced construction.

Dead air space surrounding the inner can assures effective insulation and requires a minimum of ice.

Wide mouth with close fitting flanged cover excludes dust and dirt, makes for convenience and reduces evaporation.

Extremely durable and will withstand hardest use in the field.

Sizes 1½ Gallons to 15 Gallons
AT YOUR LOCAL SUPPLY STORE

EGAN MANUFACTURING CO., EL DORADO, KANSAS

ditional stations can be installed to boost capacity to 116,000 barrels daily.

Project XXII

Magnolia's line from Seminole to Corsicana, Texas.

Construction by Magnolia of two 8-inch loops between Seminole and Midland, Texas, aggregating 46 miles and 333-mile 12-inch line from Midland to Corsicana which will parallel an existing 8-inch line. Capacity 42,000 barrels daily. With installation of three additional stations, capacity can be increased to 60,000 barrels daily. Crudes can be moved south to Gulf Coast refineries or north to Fort Worth and into Oklahoma through existing lines.

From New York State to Texas, construction crews swung into the work of rearranging the entire oil-transportation pattern of the East.

In New York, Pennsylvania and Ohio, lines which for years had carried products from the coast inland were reversed to carry crude and products eastward, one of the lines so modified having originally been a crude line running east and later a products line running the other way.

In the Southwest, some lines were reversed; a gas line was hauled up, cleaned, wrapped and insulated and put back again, now to carry oil; connecting lines and loops were built to make systems out of isolated facilities. Whole lines were dug up, cleaned and transported to new locations, all told 2704 miles of second-hand pipe being reclaimed and used. Additional pump stations were installed on existing lines to step up capacity.

Meanwhile, new lines also were being built, some to link existing lines, one to fill in a gap in water transportation, some to carry lines further toward major points of consumption and some to add entirely new facilities.

The construction of the two 1400-mile pipe lines from Texas to the Atlantic Coast—Big-Inch, the world's largest oil line, and its little brother, the 20-inch products line—would in normal times be an outstanding achievement of an industry which habitually took on each "biggest" job merely as a step toward one still bigger, and even in the midst of the frenzied war effort aroused general interest because they were looked to as the life-lines to save Eastern automobiles from dying on the streets, keep homes warm and insure the supplies needed for war production at home and military operations abroad.

The building of Big-Inch had its dramatic aspects. Construction crews sweated in the South's summer heat, shivered in wintry blasts on the Pennsylvania mountains. Nature did not always cooperate, and swollen river waters in a moment undid the work of weeks, but Big-Inch wormed its way along and is now in operation throughout its length, making good on the promise

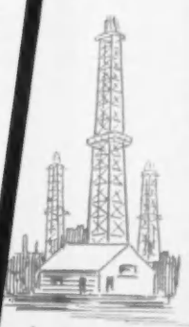
Come True!

PAY-OUT OF FIVE YEAR PLAN

Fittstown Plant — Formerly E. H. Moore, Inc.
(Now operated by Garrett Logan, Trustee)

Average investment during year	— 1937 —		
Interest at 4%		$ 5.000.00	$125.000.00
Operating expenses for year		17.554.64	
Amount to be paid at end of the year			22.554.64
Calculated value of energy supplied to field			$147.554.64
Amount remaining to be amortized			39.025.51
Amount brought forward from 1937	— 1938 —		$108.529.13
Cost of additional equipment purchased			
Interest at 4%			$108.529.13
Operating expenses for year			164.640.92
		Total	$273.170.05
Amount to be paid at end of year		$10.926.80	
Calculated value of energy supplied to field		24.211.91	
Amount remaining to be amortized			35.138.71
Amount brought forward from 1938	— 1939 —		$308.308.76
Credit for 1 unit transferred and 2 sold			82.173.64
Interest at 4%			$226.135.12
Operating expenses for year			$226.135.12
			47.777.78
		Remainder	$178.357.34
Amount to be paid at end of year		$ 7.134.17	
Calculated value of energy supplied to field		24.921.28	
Amount remaining to be amortized			32.055.45
Amount brought forward from 1939	— 1940 —		$210.412.79
Interest at 4%			79.980.40
Operating expenses for year			$130.432.39
Amount to be paid at end of year		$ 5.217.30	$130.432.39
Calculated value of energy supplied to field		26.125.82	
Amount remaining to be amortized			31.343.12
Amount brought forward from 1940	— 1941 —		$161.775.51
Interest at 4% for year			92.009.64
*Operating expenses for year			$ 69.765.87
Amount to be paid at end of year		$ 2.790.64	$ 69.765.87
*Estimated value of energy supplied to field		26.125.82	
Amount remaining to be amortized			28.916.46
			$ 98.682.33
Plant paid out completely	— 1942 —		$ 98.682.33
No interest charged for the year.			
Operating expenses for year			0
Average cost per kwh for year		$16.018.40	$ .00155

* This estimate made early in 1941. Plant actually paid out on November 10, 1941.



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ENGINES FOR 110 YEARS

If you want a fight . . . !

If you want something really fine and loyal—something that will fight for you and Victory while you sleep—hitch your well and your faith to a JENSEN Pumping Unit.

Pumping equipment has been our job for 25 years, and we think we know it. If there is a well in these United States that can't be pumped more satisfactorily with a JENSEN Unit, everything considered, we haven't heard about it.

Of course you think your wells are different. Everybody does. But JENSEN Units are flexible. They adapt themselves to conditions from coast to coast and Gulf to Great Lakes. You see them bobbing away everywhere, symbols of good management and economical operations.

Give a JENSEN Jack a battle station on your lease and let it fight for you. See for yourself how dependable and efficient it is. You will never again be satisfied with any other way to pump a well.

Meantime — see the Composite Catalog or write "The House That Jacks Built" for Bulletin No. 27.

JENSEN BROS.
MANUFACTURING COMPANY
. . . . . ***Coffeyville, Kansas, U. S. A.***
EXPORT OFFICE: 50 CHURCH STREET, NEW YORK CITY, U. S. A.

that it would deliver 300,000 barrels of crude daily. As a matter of fact, deliveries to Norris City have been running at 310,000 barrels a day, and about that figure is expected to be maintained eight months out of the year.

The products line, on the whole, has offered a simpler problem. Following the trail of Big-Inch throughout much of its route, the acquisition of rights-of-way and the clearing of the ground were less difficult. Soon to be completed to Norris City, crews are working on the Eastern section and the line will reach its Linden, New Jersey, terminus this winter.

By next spring, all of the objectives will have been reached, and by pipe line, barge and railroad the East will be getting nearly 1,700,000 barrels of oil daily. And PAW will go out of the pipe-line-building business.

The Effects

When the industry and PAW write "finis" under the pipe-line program next spring, the government will be the owner of six pipe lines—the Big-Inch, Little-Big-Inch, the 175-mile extension of the Plantation line from Greensboro to Richmond, the 82-mile Ohio Emergency line, the 198-mile trans-Florida line and the Southwest Emergency line in Texas.

The effects of the new transportation network which has been built up will be many and far-reaching.

To Eastern civilians and war industries it means insurance against an oil famine. To the war effort, it means much more.

Primarily, it means that more efficient use can be made of the tanker fleet now being rapidly expanded. Loading at Atlantic ports for the European theaters of war, they can make the round trip in days less time than from the Gulf ports, freeing vessels for service in other parts of the world. Equally important, when Europe is cleared and the major war effort shifts to the Orient, tankers will be available for service in the Pacific and a transportation problem on the West Coast, such as plagued the East, will be avoided.

But for the industry, it means a total shift in transportation habits and raises post-war problems of considerable magnitude.

The industry has cooperated wholeheartedly in the pipe-line program, realizing that oil is ammunition without which we might lose the war. And the American oil industry might not be worth much — to Americans — in that event. Patriotism and plain commonsense dictated its course.

Nevertheless, the possibilities of a more normal national economy in the not too distant future, when we will

In the supply business we are reminded of self-evident facts by the twenty-fourth annual meeting of the American Petroleum Institute which starts today in the Palmer House at Chicago. ¶ We are reminded, for instance, that supply house stocks were essentially a nightmare of misfits before the A. P. I. perfected dimensional standards to dissipate the hodgepodge. ¶ We are reminded, too, that the technical discussions and constructive activities of the organization have been of inestimable value not only to the petroleum industry, but to all who serve it and to all it serves. ¶ The A. P. I. is an institution peculiarly American in ideals, functions and achievements.

"....here's MY warehouse!"

FRICK-REID
Supply Corporation

TULSA, OKLAHOMA

fight in one hemisphere instead of two, is beginning to color oil men's thoughts and lead their speculations into the future.

Today, any facility that gets oil where it is needed is acceptable to the industry. But after the war these new facilities will pose serious problems.

When peace returns, the United States will have the largest tanker fleet in its history. But Big-Inch and Little-Big-Inch will be able to compete with tankers in cost of hauling. And those lines—and four others—will be owned by the government.

So, much depends on what the government will decide to do with its pipe lines, and that decision, in turn, will depend upon what kind of an administration is then in office.

After the War

Post-war planning today is anybody's game, but there have been a few straws to show which way the wind is blowing in some quarters. One of the last actions of the National Resources Planning Board, for which Congress denied funds after last June 30, was to prepare a comprehensive program for the post-war transition of the country to a peace-time economy, in which integration of pipe line facilities was recommended.

The board envisioned creation of a federal transportation agency which, in cooperation with pipe-line companies or through a public or mixed corporation, would plan and carry out an enlargement and integration of the network of major pipe lines under which the nation's essential liquid fuel supply could be assured in future emergencies.

In some Congressional circles there is a belief that an insurance policy should be taken out against a recurrence of the situation we found ourselves in at the outbreak of the war, by "stock-piling" strategic materials which were then cut off and by retaining in stand-by condition facilities which had to be built up for war production.

Surplus Tankers

The industry, however, will have to seek a use for both pipe lines and tankers. Of the latter, there will probably be far more than can be used in world petroleum transportation, at least until this country reaches the point where it must depend on remote sources for a large part of its supply.

Furthermore, many tankers are owned by oil companies and can make a profit for their owners, but the government might operate its six pipe lines itself—without profit—or dispose of them to pipe-line companies for operation under strict regulation and with small profits. In either event, the lines would be in a position to compete with tankers.

The final disposition of the lines will have an important impact on the industry.

Use for Gas?

Oil men admit they have not had much time to consider the question, but one possible solution is to convert one of the big lines into a natural gas carrier, while the other line probably could be used to run foreign oil from Atlantic ports to District 2 refineries by reversal of the northeast leg, while the southeast leg could run crude and products into the same district.

The New York and Pennsylvania lines reversed for the war effort, it was pointed out, probably will be re-reversed and put back into their original service of supplying the interior, while the lines in the Southwest will mostly be useful, that section having been none too well supplied with underground transportation in the past.

Whatever the eventual outcome, however, the oil industry and the government, in a cooperation which neither would have believed possible a few years ago, have again lived up to the industry's slogan: "The difficult we do at once, the impossible takes a little longer."

We built the barrel BIG

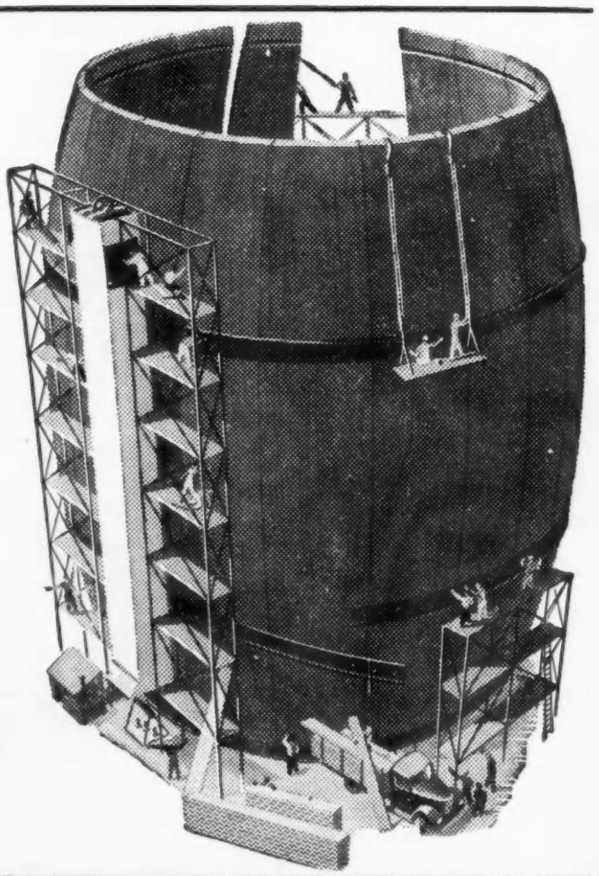
Early in the war, the electric service industry received this challenge:

You will be asked to scrape the bottom of the barrel to haul out more kilowatts for war production!

But fortunately, we had built the barrel big! . . . Big enough to meet all the power needs of factories, mines and shipyards—and still supply *your home*—without rationing—at bargain prices!

Today, America is producing *five times* more electric power than in the last war—more than all the Axis countries *combined!*

Was it *luck* that we built the barrel BIG? No, the electric companies under *business* management—which supply over 80% of the nation's power—look and plan ahead. That habit has helped us give *you* friendly dependable service—and helped us meet the challenge of America-at-war!



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SOUTHWESTERN
GAS AND ELECTRIC COMPANY

Don't waste electricity just because it isn't rationed!

District 3 Industry Committees Are Getting the Job Done

By CHARLES F. ROESER, Chairman, Petroleum Industry Committee, District 3

Problems connected with production, transportation, refining and marketing in the "battle of petroleum" as related to the various industry committees and sub-committees are discussed for the first time in a report of the General Committee of District 3, which includes Texas, Louisiana, Arkansas, Mississippi, Alabama and New Mexico.

THE facts pertaining to a nation's productive activities, especially the production of critical war products in time of war, would be of great value to the enemy. This fact is best understood when we stop to think how often we all ask questions such as: how many planes can Japan or Germany produce? what is their output of 100-octane gasoline? what is Germany's crude oil supply? and so on.

During the trying months of 1942, when our industries were being geared to the manufacture of implements of war, it was necessary, in the interest of national safety, to observe the utmost secrecy concerning industrial activities. However, now that ultimate victory is (to quote Admiral Nimitz), "crystal clear," some of the accomplishments of the petroleum industry, operating under a cooperative arrangement with government, have been disclosed. When our enemies are destroyed, and the full story can be told, the partnership arrangement between government and industry (represented by functional committees throughout the nation), will serve as an excellent example of how, in a democracy, an industry can gear itself for war and sustain only temporary loss of freedom of action enjoyed in peacetime, under a system of free enterprise, to which we shall and must return.

The sudden withdrawal of tankers, shortage of steel and alloys, the need for tremendous quantities of aviation gasoline, aviation lubricating oil, and numerous other special products required by the military forces, imposed upon the petroleum industry, especially in District 3 (composed of Texas, Louisiana, Arkansas, Mississippi, New Mexico, and Alabama), what at first appeared to be a series of insurmountable problems. No agency of government could have solved those problems alone. The solutions required the experience and knowledge of men in the petroleum industry. Industry committees called these men in and set up subcommittees to deal with each of the several problems. The members of such committees and subcommittees worked many long hours and devoted practically all of their time to the particular problems assigned, and came through with the answers.

Our armed forces have not been without adequate supplies of needed products at any time, although the mounting output of planes, tanks, jeeps, etc., has placed a constant and rapidly increasing demand upon the industry. Neither has there been a single instance of failure to meet the needs of agriculture and industry, while at the same time the essential needs of the passenger-car owner have been met. All of this has not just happened. It is the result of careful planning by the many committees, both district and national, and the full cooperation of individuals and companies in indstry, in the carrying out of such plans.

It is true civilian consumption of motor gasoline has been severely restricted. Such restrictions are necessary, in order that the military may have all it needs. However, this condition could have been alleviated, had not the Office of Price Administration refused to recognize the fact that the current ceiling price for crude oil does not provide sufficient revenue to operate stripper wells, nor does it provide the incentive to accelerate the search for more oil that must be found if we are to avoid wasteful dissipation of our known reserves.

In District 3 we have an over-all plan of operation and each committee performs its duties in accordance with that over-all plan. The general committee functions as a sort of executive committee, dealing with problems of a broad, general nature, leaving to the functional committees the performance of duties pertaining to their respective branches of the business. A brief summary of the activities of each of the functional committees and subcommittees of each functional committee seems to be appropriate.

Production

The production committee, of which George A. Hill, Jr., president of the Houston Oil Company of Texas, is chairman, has functioned with the aid and advice of a number of important subcommittees. As a result of careful studies and extensive research by its subcommittees, it has made appropriate recommendations to the petroleum administrator concerning the needs of the exploration branch of the industry and the requirements of steel and alloys to carry on the development of our fields.

Appropriate subcommittees have studied and made recommendations concerning manpower, extension of secondary-recovery activities, joint use of facilities, and reclamation of oil field equipment. The reserves and development subcommittee spent months in the accumulation of data in order that it might determine the proven reserves underlying the six states in District 3. This subcommittee also makes periodical studies of efficient rates of production of all fields in the district. Such studies enable those charged with the responsibility of conduct of the war to determine the amount of oil available to meet military and civilian needs.

The production committee and its

subcommittees are making a continuing study of producing and drilling practices, so that the maximum number of wells may be drilled with the least possible expenditure of manpower and critical materials.

It should be understood that spacing rules fixed by the petroleum administrator are designed to fit the limited quantity of steel available to the industry. As steel becomes more plentiful, it is assumed that such rules will be relaxed. It is further assumed that, when ample steel is available and federal drilling restrictions are no longer necessary to conserve steel, drilling operations will return to the standards fixed by state authorities.

Technical advisors of broad experience and recognized ability attend all meetings of the production committee in the district, as well as monthly meetings of the production committee of the Petroleum Industry War Council.

Natural Gasoline

The natural gas and natural gasoline committee, of which N. C. McGowen, president of United Gas Pipe Line Company, Shreveport, Louisiana, is chairman, soon after its organization, set up an office with a full-time staff, in order to provide for the petroleum administrator on-the-ground contact with the natural gas industry and natural gasoline manufacturers in the district.

One of the first tasks undertaken by this committee was a detailed plant-by-plant survey of the possibilities of manufacturing additional quantities of isobutane, normal butane, and iso-pentane —essential components in the manufacture of 100-octane gasoline and synthetic rubber.

At the conclusion of this study, the committee forwarded to Washington a report which resulted in securing substantial additional supplies of fighting grade aviation gasoline, through recommended plant expansions and increased efficiency of operations. At the request of the committee, competent technologists of the industry thoroughly investigated the possibilities of manufacturing butadiene for synthetic rubber at natural gasoline and cycling plants and their conclusions resulted in at least two feasible proposals for butadiene manufacture by units of the natural gasoline industry.

Subcommittees composed of experienced gas pipe line engineers and executives surveyed the operations of all producers, transporters, and distributors of natural gas in the district, so as to determine the most efficient use of these facilities. These studies enabled the industry to meet, with a minimum expenditure of steel, the unprecedented peak load demands for natural gas which are necessary to meet war industry's requirements.

As a part of this study, the subcommittees prepared detailed maps of all gas transmission facilities in the district, so that this information would be available to governmental agencies which are directing the industry's activities under wartime conditions. Through its subcommittees, the natural gas and natural gasoline committee is continually at work on problems of a technical nature, such as proper development patterns for gas and condensate fields and recommendations for new plant construction and added facilities to increase production for aviation gasoline.

Its reserves subcommittee has just completed, after a year's study, a report on the volume and quality of the gas and condensate reserves of more than 2300 reservoirs in the district. Prospective aviation gasoline plant installations have been surveyed and the facilities correlated with available raw material supplies. Estimates of essential material needed by natural gas pipe line and plant operators to supply wartime demands are prepared quarterly so that the administrator's office may reliably forecast the industry's steel requirements. Manpower studies have been carried out and a job dictionary prepared for the use of the industry and War Manpower Commission.

Transportation

The principal function of the transportation committee of District 3 has been to assist the Petroleum Administration for War in rearranging movements of crude and products to the East Coast, in order to offset the loss and diversion in tankers resulting from the war. In normal times, this area shipped 1,200,000 barrels of crude oil and petroleum products by tankers to the East Coast. This movement declined very rapidly during 1942, and it was necessary to devise substitute methods of delivery, not only to meet essential military and civilian demands in the East Coast, but also to provide an outlet for producers and refiners in this area.

The story of the tremendous revolution which occurred in tank-car transportation of petroleum to the East Coast is a dramatic one, and has been told so frequently that there is little that can be added. The success of the efforts of both the oil companies and railroads is indicated by the fact that as of July, 1943, tank-car movements from District 3 had reached a record level of over 650,000 barrels daily to the East Coast and 105,000 barrels daily to District 2 (the Mid-Continent area).

A corresponding shift took place simultaneously in the movement of oil by pipe lines. Whereas in 1940 there was a net movement of oil from the Mid-Continent into the Southwestern States, by 1941, there was a net movement north of 80,000 barrels daily, and this continued to increase until now the net movement is over 600,000 barrels daily of crude and some 100,000 barrels daily of products. The tremendous increase in pipe-line movements north was made possible by discontinuing southbound movements, expanding the capacity of lines, and by some new projects, including the 24-inch crude oil line from East Texas to District 1, which handles 300,000 barrels daily. The pipe-line projects contributing to this movement north include the reversal of four lines from the Gulf Coast to East Texas to supply 160,000 barrels daily to the Big-Inch at Longview, the extension and expansion of a product pipe line from Louisiana through the Southeastern part of the United States, and many other projects. Two new pipe lines have been approved for increasing the movement of oil out of West Texas, but these will not be completed until the end of the first quarter of 1944. In addition, a 20-inch product line is being built from the Texas Gulf Coast to the East Coast, and this will add over 200,000 barrels daily to the pipe-line movements out of District 3 when it is completed. When all these projects are completed, the capacity will exist to move about 1,000,000 barrels daily out of this area by pipe lines.

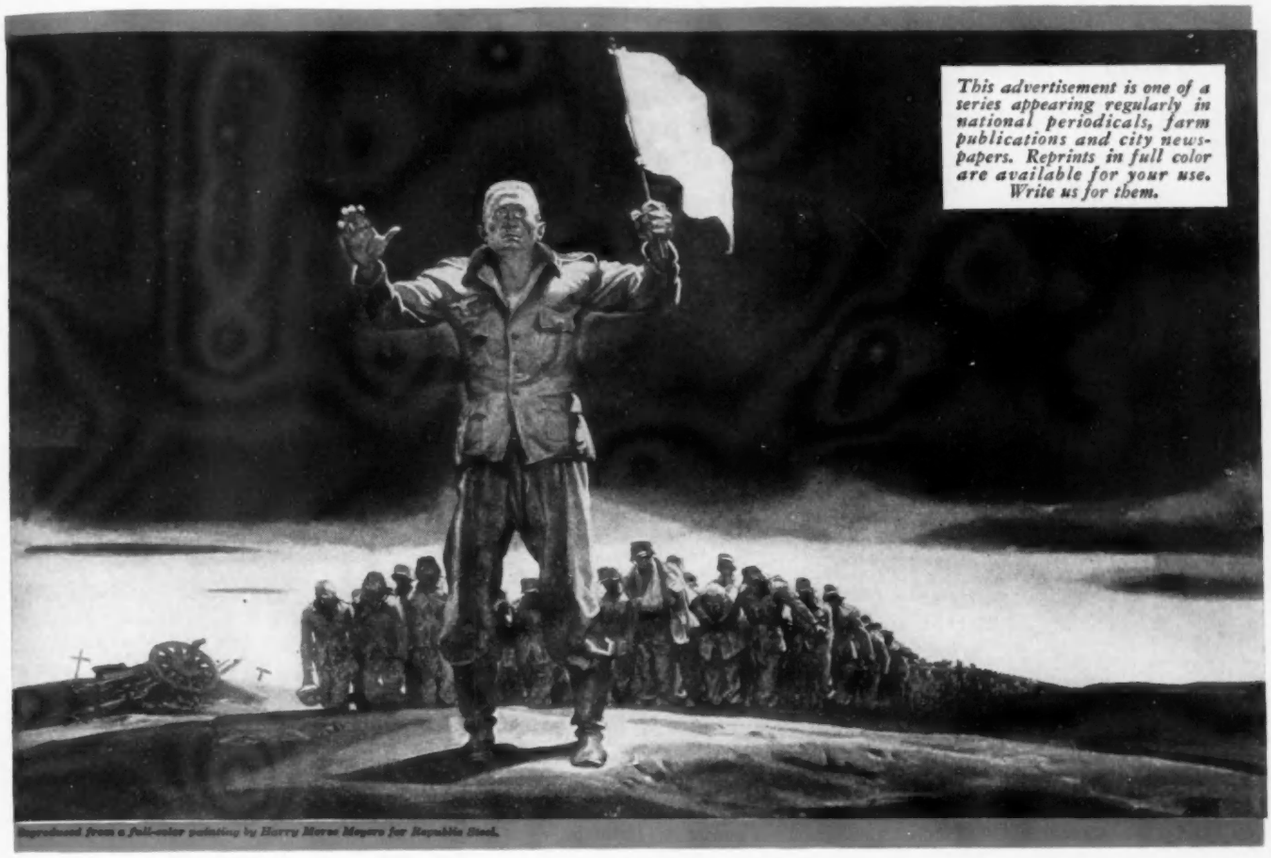
Harry C. Wiess, president of the Humble Oil & Refining Company, is chairman of the transportation committee.

Refining

The duties of the refining committee, District 3, cover many and varied manufacturing problems of the industry. In conjunction with the Petroleum Administration for War, under established procedure, an operating program for all refineries in the district is formulated both monthly and yearly, and simultaneously all technical phases of operations which would result in increased production of war products are thoroughly studied. This particularly is true in the manufacture of aviation gasolines, toluene, and butadiene for synthetic rubber. In the earlier stages of the war, when industry was called upon to convert units making domestic products into war plants, a conversion program in which all companies participated, was carried through to a successful conclusion.

Many beneficial exchanges of facilities and raw materials are handled by the committee and its subcommittees, resulting in greater production and efficient utilization of crude and other petroleum fractions consumed by the refineries.

The question of manpower for the staffing of new war plants and for the maintenance of operation of present re-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The Oil Bank of America

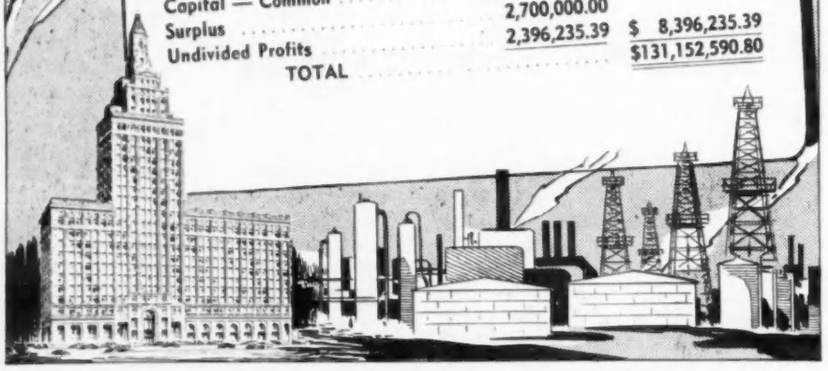
Statement of Condition October 18, 1943

RESOURCES

Cash and Due from Banks	$54,157,370.10	
U. S. Government Securities	51,968,399.99	
Other Bonds and Warrants	3,282,886.76	$109,408,656.85
Loans and Discounts		18,758,777.37
Overdrafts		130.08
Income Receivable Accrued		214,430.98
Prepaid Expenses		61,286.54
Stock in Federal Reserve Bank		180,000.00
Bank Premises		2,497,499.94
Customers Liability under Acceptances		31,809.04
TOTAL		$131,152,590.80

LIABILITIES

Deposits		$122,531,690.82
Acceptances Executed		31,809.04
Income Collected, Not Earned		54,436.62
Reserve for Taxes, Interest, etc.		133,018.93
Reserve for Preferred Dividends		5,400.00
Capital — Preferred	$ 600,000.00	
Capital — Common	2,700,000.00	
Surplus	2,700,000.00	
Undivided Profits	2,396,235.39	$ 8,396,235.39
TOTAL		$131,152,590.80



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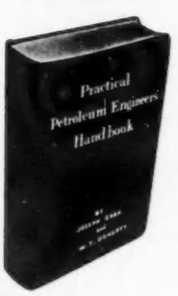
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

PRACTICAL PETROLEUM ENGINEERS' HANDBOOK

SECOND EDITION—REVISED AND ENLARGED

By JOSEPH ZABA, E.M.M.Sc. and W. T. DOHERTY



This book was written by practical oil men. The tables were compiled so that they can be used by anyone to meet practical field situations without further calculations, and will fit 99% of the conditions under which the average operator is working in the field.

The second edition of the PRACTICAL PETROLEUM ENGINEERS' HANDBOOK has been completely revised and enlarged. The many changes which have been made during the past two years in the Standard Specifications of the American Petroleum Institute, particularly in pipe specifications, are incorporated in the new edition. Several tables are rearranged and charts enlarged to facilitate their use. Table of Contents and Index are more complete. Also about 90 pages of new formulae, tables, charts and useful information have been added.

This handbook was compiled and published for the purpose of saving the time of operators, engineers, superintendents, foremen and others.

TABLE OF CONTENTS

Chapter I — General Engineering Data
Chapter II — Steam
Chapter III — Power Transmission
Chapter IV — Tubular Goods
Chapter V — Drilling
Chapter VI — Production
Chapter VII — Transportation

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GULF PUBLISHING COMPANY, P. O. BOX 2608, HOUSTON, TEXAS

fineries has been and is being given serious consideration, in order that no loss of production will result from idle units.

J. W. Newton, vice president of Magnolia Petroleum Company, is chairman of the refining committee.

Marketing

Prior to Pearl Harbor, manufacturing plants engaged in the manufacture of marketing equipment for the petroleum industry (pumps, tanks, drums, cans, etc.), were converted to the manufacture of equipment for our armed forces. After Pearl Harbor, few new trucks were available for the distribution of gasoline and other petroleum products.

These were some of the problems confronting the marketing branch of the business. It has been the responsibility of the marketing committee to devise plans to make the most effective use of the existing equipment, both stationary and mobile, so that the military and civilian consumers, including agricultural and industrial, might be supplied with needed petroleum products in sufficient quantities at the place, and at the time, needed. The fact that no consumer in District 3 has been without adequate supplies at any time is a tribute to the ingenuity and resourcefulness of the members of the marketing committee and its subcommittes scattered throughout the district.

The marketing branch of the oil business is highly competitive, yet I have not heard a single complaint from any marketer in the business, large or small, that any committee at any time had made any recommendation that adversely affected his competitive position.

Not all plans for the conservation of equipment are initiated by the petroleum industry committees. Many have been initiated by the Petroleum Administrator, or the War Production Board, but only after consultation with the marketing committees of the nation. The views of the marketing committee of District 3 have not at all times been in full accord with plans and directives promulgated by the administrator, but in view of the results obtained, I must say that the cooperative arrangement by government and industry has worked, and the military establishment, the people, and the petroleum industry have been well served.

J. S. Leach, vice president of The Texas Company, Houston, Texas, is chairman of the marketing committee for District 3.

General Committee Subcommittees

There are also a number of subcommittees of the general committee that deal with matters affecting all functional committees.

The manpower subcommittee has made a study of what may be called

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general office manpower requirements, qualifications, and length of training periods.

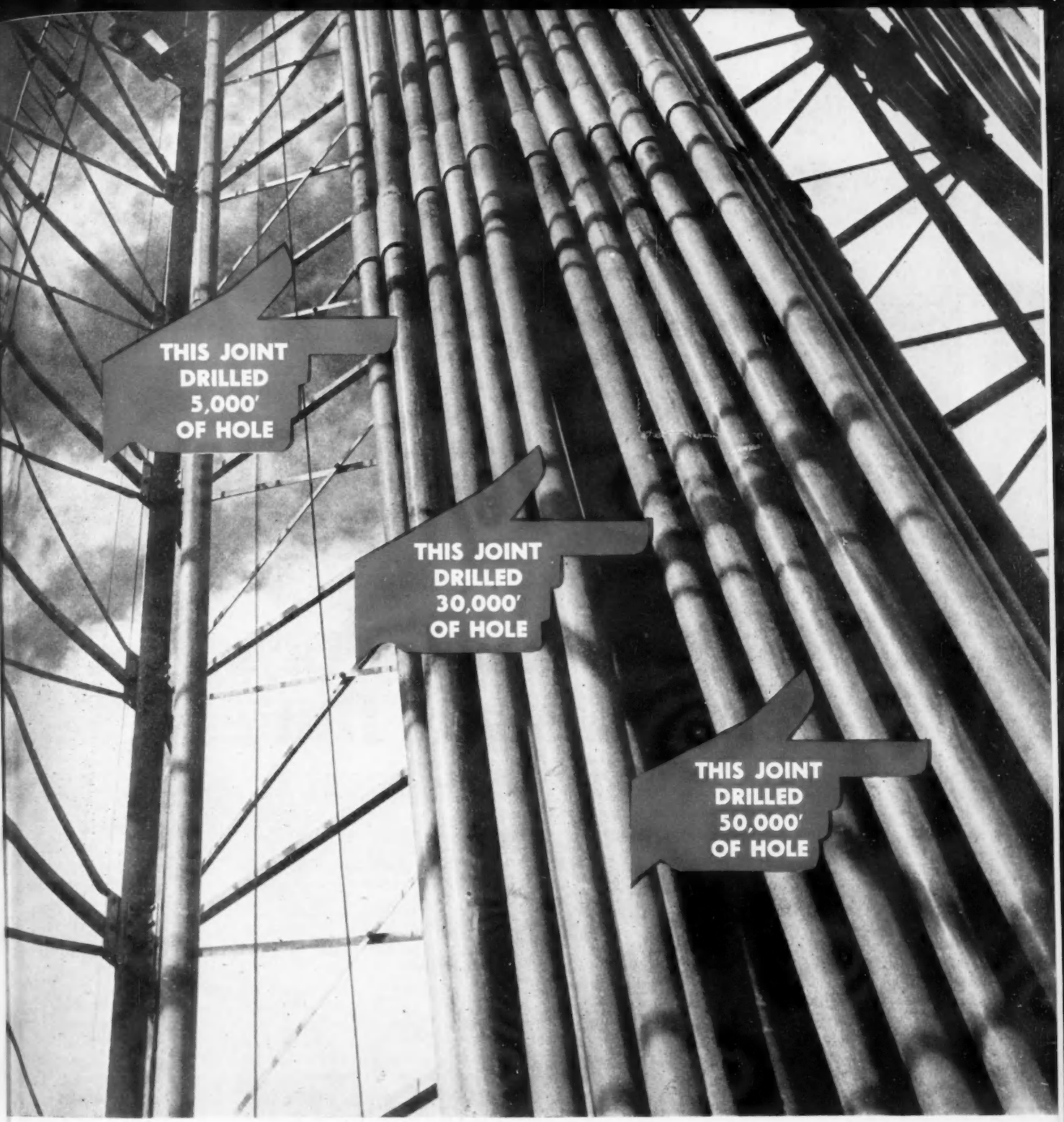
The materials subcommittee has made exhaustive studies of the material requirements of industry, such as well casing, line pipe, pumps, engines, etc., and was active in the establishment of tubular goods stock piles throughout the district, which now make it possible for an operator to start a well with the assurance that surface pipe, well casing, etc., will be available to him when needed.

The supplies and distribution subcommittee has seen that adequate supplies of needed products are available at the time, at the place, and in the quantities needed.

The statistical subcommittee prepares data indicating supply and demand of crude oil and products within and upon the district.

Due to the fact that production of crude oil in the district is approaching the maximum efficient rate of production, the most active subcommittee today is the crude oil supply subcommittee. It is the responsibility of this subcommittee to devise plans providing for supplies of crude oil to all refineries operating in the district, especially refineries producing war products, so that all may receive adequate supplies of the proper grades of crude oil within the limits of productivity. This subcommittee meets at least twice a month. At such meetings, the needs of all refineries, pipe-line capacities, and productivity of fields, are reviewed. The question of crude supply is perhaps the most important question now confronting the oil industry. The importance of the work of this subcommittee will increase as the shortage becomes more acute, which is inevitable because of the failure of the Office of Price Administration to adjust the ceiling price of crude oil two years ago, when the matter first was called to its attention. The matter is further aggravated by the recent action of the Director of Economic Stabilization. The suggestion that subsidies be provided for wildcatters and stripper-well operators is, in my opinion, impracticable and cannot be administered in a manner that will be fair and just either to the producer or the general public. The search for new oil reserves must be intensified. A general price increase is the only practical answer.

The general committee for District 3 maintains an adequate staff in its offices at 805 Niels Esperson Building, Houston, Texas, to perform such detailed work as is required by the general and functional committees. It is through this office that routine matters are communicated to the industry and the offices of the Petroleum Administrator for War.



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The outside walls of drill pipe seldom reveal its true condition. As a rule, the joints that have drilled fifty thousand feet of hole *look*, from outward appearance, none the worse for wear than those that have drilled only one-tenth as much footage. It's what's inside that counts, and that's why more and more operators are making *TUBOSCOPE* service a regular part of their drilling routine.

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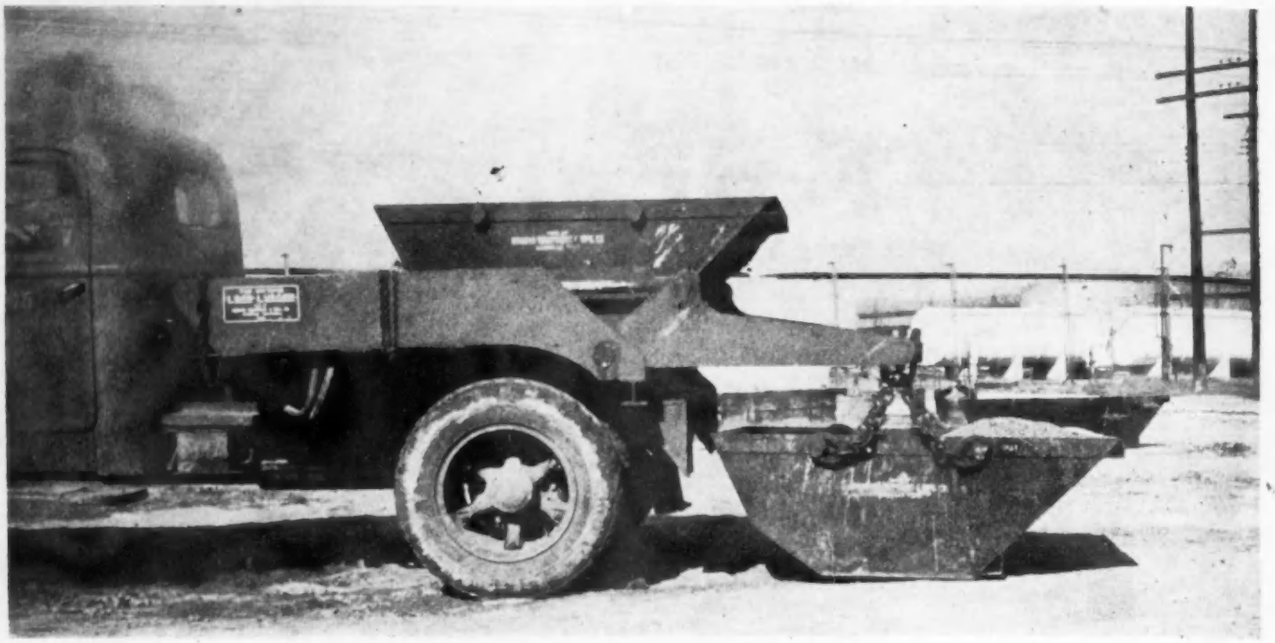


One bucket loaded on truck and another ready for hoisting

Removable Truck Trays Can Perform Many Duties

By TOM L. TURNER, Staff Writer

Refiners and construction contractors have a tool that saves man and truck hours, and it looks good for the field.

A COMPARATIVELY new method of handling materials and supplies being transferred from one location to another, is being used by several refineries and construction companies in the Gulf Coast area at this time, and could be used in the oil fields for a number of duties. This equipment consists of a hydraulic hoisting mechanism and frame mounted on a standard truck chassis, with large removable trays or buckets being used to hold the material. This gives the operator a combination flat-bed truck, dump truck, hoist and general utility truck. The flexibility of this equipment together with the ease of loading and unloading is the equipment's most important feature.

The frame and hydraulic hoist is mounted on a standard truck chassis and the hydraulic mechanism is operated direct from the power take-off on the truck transmission through three levers installed in the truck cab. A simple power take-off is installed just below the metal frame which operates the oil pump of the hydraulic mechanism. The three levers in the cab operate the power take-off, hoisting and dumping operations. These levers are operated by the truck driver, eliminating the necessity of the driver leaving the truck. Two arms, one on each side of the truck bed, to which there is attached two chains with hooks on one end, are operated by the hydraulic mechanism. The chains can be attached to the buckets for hoisting to the truck bed, the buckets can either be set down flat or dumped as desired. When dumping, a jack leg is automatically lowered taking the load off of the rear axle and tires.

The buckets, constructed of reinforced steel plate, hold approximately 1½ cubic yards of material. Two lugs on each side of the bucket enable the operator to easily attach the chains of the hoisting arms so that the bucket may be lifted onto the truck. Being only knee high the buckets are easily loaded by men on the ground or in a shallow ditch.

In one refinery using this equipment, spent catalyst, sludge, acid and other refuse material is being handled with a minimum of time and effort. Buckets are unloaded at whatever point the refuse is to be handled from, and then picked up later for disposal. This particular refinery handles two buckets of disposable material on each trip. One bucket is loaded on the truck in the regular manner and another is held suspended by the hoisting arms. In cases where the disposing grounds are some distance from the loading point this method saves one truck trip for the truck and operator, thus creating considerable saving in manpower and time consumed. This same refinery places at different points in the refinery, two buckets side by side. In one bucket salvagable material is placed and in the other bucket disposable material is placed. The truck driver while making the rounds in the refinery keeps a watch for the buckets to reach a point where they should be emptied. Should the bucket of salvagable material be full the truck driver will at the first opportune time pick up the bucket, leave an empty and take the salvagable material to the ware-

Second bucket has been hoisted and swung behind truck on lifting arms of the hydraulic mechanism.

house for reworking. The same idea is used with the disposable material, numbers of trips are made to the disposing grounds with only one bucket on the truck and the driver will pick up another disposable material bucket on his route to the disposing grounds. Sand and gravel are also placed at the necessary points over the refinery with ease and without the loss of material and the usual mess created by a pile of gravel or sand. Concrete is mixed at one local point and distributed by the bucket system as needed, thus eliminating the necessity of moving a concrete mixer, sand, gravel and water. This is only a few of the uses to which this equipment is being used in this one particular spot.

In this day of scarcity, conservation of materials, equipment, and manpower is primarily one of the operator's biggest problems. One user of this equipment has been able to dispense with several trucks and drivers formerly used to handle materials, having found that with this equipment on the job, idle truck time has been held at a minimum. So many operators are having to rent equipment that the elimination of one or more trucks constitutes a considerable saving in both the truck time and red tape necessary to the renting of equipment.

This type of equipment has not been used directly in the oil fields but could easily be used to an advantage by most drilling and producing companies. Where an operator can economically have only one truck, a combination truck of this sort will handle most of his work and eliminate other work. Cleaning up around a drilling well or new producer could be very easily done with this type equipment. Tool boxes could be handled with a minimum of effort. Small hoisting jobs could be handled with expediency and safety. Hundreds of uses could be found for a truck of this type around a lease. Special tool boxes, contrainers and equipment of all kinds could be moved from one location to another without idle truck time. Where in the past material has been winched up on the truck, thereby submitting it to damage, equipment of this sort would lift the material and set it flat on the ground, foundation or truck bed with a safety factor high above the winch.

Pipe-line work could be simplified and expedited with equipments of this sort. Acetylene and oxygen drums could be handled faster. All types of equipment could be handled with speed. Removal of excess dirt would be simplified with the bucket system.

Another operator has found the safety factor greater with this equipment. Men handling materials only knee high are less likely to be injured than men handling material at shoulder height. One man can handle objects at knee height where it would take two or more men to handle same object at shoulder height.

One very nasty job is the cleaning of tanks. B.s. is cleaned from the tank into the fire wall, then another operation is necessary to remove it from inside the fire wall. An operator could place the buckets near the cleanout on the tanks and load direct into the bucket, which in turn could be moved by the truck as it is filled, thereby eliminating extra handling.

This novel idea of handling material has no end of possibilities. Each day superintendents find another use for the equipment.

Bucket being dumped of spent catalyst in disposing grounds.

PRACTICAL OPERATING *Hints* FOR THE DRILLING RIG

$5.00 will be paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, *Houston.*

1. BURNERS

Adjustable Panels Maintain Alignment

Setting the burners in a pan with flanged end seals permits special jacks to speed rigging-up of unit below fire-box of boiler and to permit quick change of units in service.

UNITIZED burner panels for drilling boilers must be so arranged that they may be dropped for burner replacement, even when carried as a part of the boiler on rig shifts. A quick method of placing the units under the mud rings has been developed by one contractor, who welds an overhanging flange around the burner panel itself, bracing it sufficiently to support the entire burner assembly. At the four corners of this unit are welded sockets, into which fit heads of four special screw jacks.

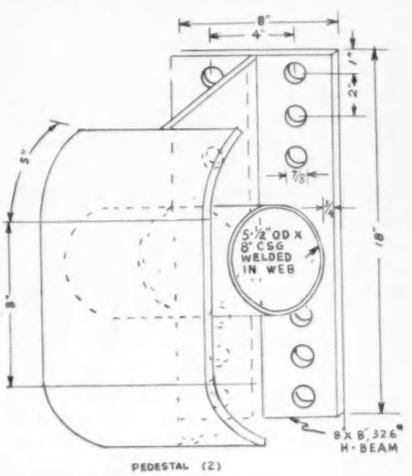
The threaded portion is pierced with bar holes or has a forged hex head to facilitate adjustments.

The lower ends or normal supporting bases of these jacks, instead of being flat, are formed from extra heavy pipe of a size to fit over the pipe used as sub-base for the boiler unit. The jack thus is adjustable transversely, while slight rotation of the base around the pipe accounts for any change in dimensions of the burner assembly due to expansion or contraction.

To place, the burner assembly is set on the four jacks at one side of the boiler, and the entire unit slid across the supporting pipes to the proper position, where the jacks are operated to bring the supporting and sealing flange to the proper height to close off the gap at the bottom of the mud ring.

2. RIGGING-UP

Fixed Anchorage Secures Drawworks



Sketch of unit, fabricated by welder from beam section so as to insure clearance at ends.

USE of a short length of drill stem or heavy pipe through the Vees of the substructure as anchorage for the hold-down bolts of the drawworks and drilling engine is widespread. A drawback to this method of attachment lies in the fact that the contact between the bar holding the eyebolts and the angle braces is little more than a line and the proper initial tension is soon lost through pounding or vibration as the contact widens.

To provide a firm anchor for the tie-down pipe, one company builds a pedestal which is bolted or riveted to the substructure leg, and which becomes a fixed portion of the derrick. The unit is formed from an 18-inch length of 8x8-inch H-beam, a 5-inch portion of the web being cut away at each end to permit the outer flange to be curved in to afford better clearance and prevent material hanging up on it. Through the center of the web is welded an 8-inch nipple of 5½-inch casing, aligned with

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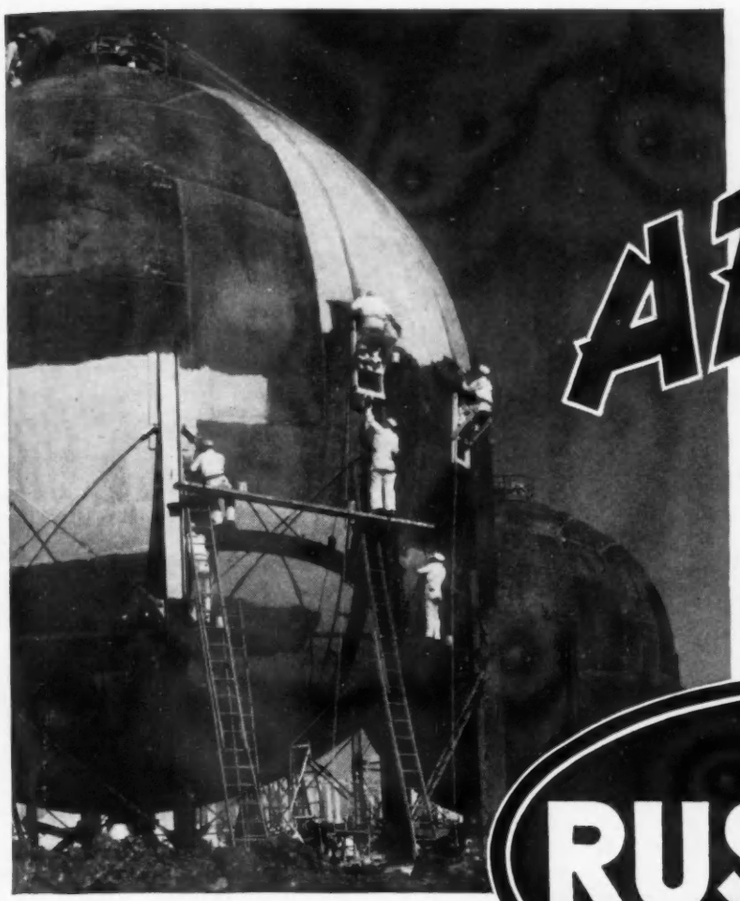

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Rust-Ban* Primers are the basis of a rust-preventive armor that adds years to the life of new or re-newed metallic surfaces. Rust-Ban Primers are one variety of a complete line of rust preventives that has proved its effectiveness under practically every service condition known to the oil industry. In the Rust-Ban line you will probably find the product to solve your corrosion problem; consult your nearest Rust-Ban marketer for detailed information.

★

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By conserving rope, by utilizing short lengths and by treating rope with care you are helping to save lives on our busy war fronts because you are helping to put rope into the hands of those who need it most — our fighting forces.

If you must buy new rope, insist on New Bedford — the rope of quality since 1842.

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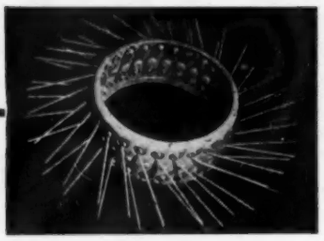

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Two rows of oil tempered bristles, spaced to ⅜" centers, each anchored with pre-formed pivot spring at base, fully protected. Bristles do not strip, and wear slowly. These scratchers widely used to clean walls before cementing, and to center pipe for evenly distributed cement job. Used also in drilling to prevent or dissipate filter cake, permitting proper impregnation of formations. Caving, sloughing, stuck pipe, water and gas encroachment and related drilling troubles are thus minimized to an astonishing degree. Write for folder, or see Composite Catalog. Will pay costs both ways on shipments for approval, or stock your favorite supply store.

Pump and engine valve springs for supply store stocks. Send sample you want duplicated. Immediate delivery. Leaf springs furnished oil country shops for fishing tools, packers, etc.

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WEATHERFORD products available through supply stores everywhere.

the flanges and parallel to the vertical axis of the pedestal.

Two such supports, firmly attached to the substructure legs, accommodates the length of drill stem which in turn passes through the eyebolts and provides the anchorage. The pipe is pinned or otherwise held against possible side slippage in the usual manner.

Use of the pedestals insures the same turnbuckle distance on each set-up, and thus helps speed the work in addition to providing a firm anchorage.

3. *LUBRICANTS*

Special Rack Units Aid Drum Handling

AN IMPROVEMENT on the usual rectangular rack used to raise drums of lubricant high enough to permit the fluid to be withdrawn through the spigot in the 2-inch bung outlet permits the drum to be tilted when nearly empty, speeding flow of the last few gallons into the transfer can.

Pivoted on the upper frame member on its back side are swinging bails or loops of sucker rod, supported in bearings of scrapped pipe collars. When the drum is nearly emptied in the horizontal position, the rear end is lifted, and the bail or support raised and allowed to swing over against the top of the frame. This checks the bail at an angle of some 75 degrees and affords a firm support for the drum end, causing all oil to flow to the spigot end and insuring proper flow without it being necessary to cant the drum manually each time oil is desired.

When not needed, the bails are allowed to hang vertically from their sockets, swinging clear and not interfering with racking of full units.

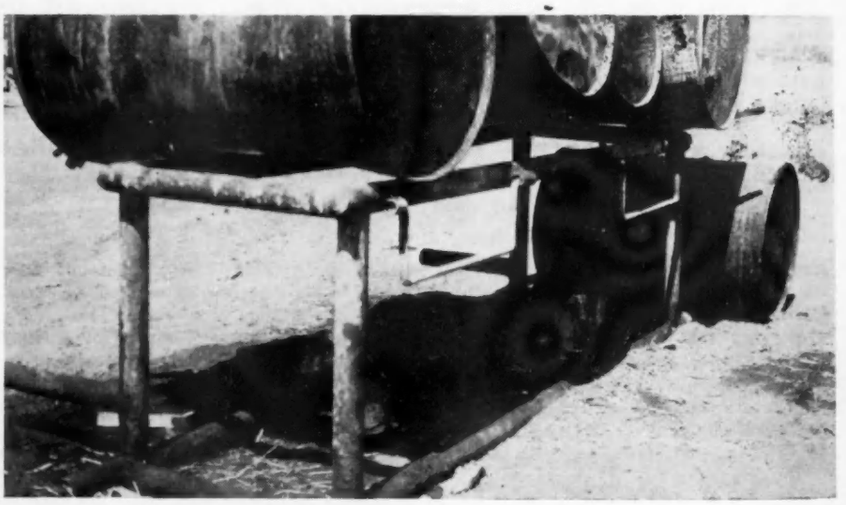
4. *MUD HANDLING*

Flume Dump Gate Speeds Fluid Shift

Mud dump valves, with extension handles of sucker rod, permit quick clearance of flume contents.

WHEN the mud is to be dumped quickly from the flume into the mud tank below the shale shakers, the job can be expedited by using discarded mud pump valves and seats. The seats are inserted in the plank floor of the flume at the points where the mud can flow freely into the tank.

The valves are atached to short pieces of sucker rod, using the box end as a handle and setting the unit upright



Hinged in eyelets at the back of the drum rack, these loops of sucker rod may be swung under nearly empty drums to increase flow of fluid to spigot end and thus reduce wastage.

Save Manpower

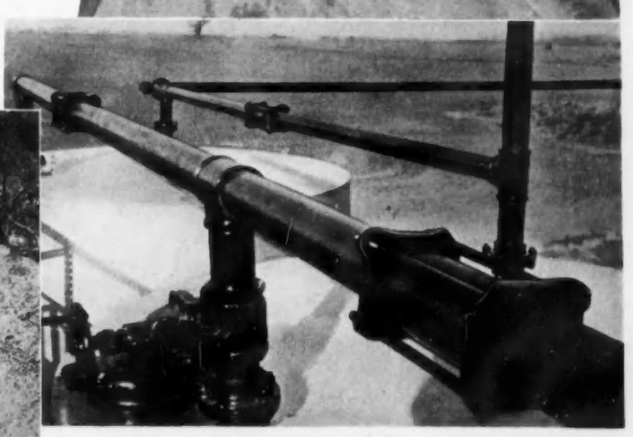
with time-saving "Dressers"

SKILL is built into ready-made Dresser Couplings and Sleeves. Night or day your newest workman can assemble the few standard parts over plain-end pipe and tighten the bolts. No exact pipe fitting, no complicated machinery.

Call Houston Warehouse for fast delivery.

Complete stocks of all standard sizes and quantities ready for work at all times. It's speed all the way with Dressers!

Installation time—3 minutes for 4″ size; 5 minutes for 8″ size, etc. One green crew laid 5.2 miles in 11 hours.



Dresser Style 40 Long Sleeves span the gap—take up misalignments — prevent leaks by absorbing stresses.

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GULFCO WAR WORK COMES FIRST

However we are still giving good service to our customers, especially to those who give us 4 or 5 days notice

GULFCO FORGED STEEL CASING HEADS

TYPE K-1—2000; 4000; 6000; 10,000 lbs. Test Pressures

An A.P.I. Flanged Casing Head with combined slips and double welded suspensions with auxiliary Neoprene packer. The weight of casing on slips compresses packing. Welding of flange to casing and seat ring forms double seat to prevent leaks. Full Hole opening.

Hold-down screws can be furnished if desired.

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SEE GULFCO 20 PAGE SECTION COMPOSITE CATALOG

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CUDAHY [MILWAUKEE SUBURB] WISCONSIN

over the valve seats. Weight of the valves plus the mud resting upon them keeps them in position until removed by hand, simply by lifting straight up, which opens the hole for the mud to flow rapidly from the flume into the mud tank.

5. LUBRICATION

Waste Jacket Water Serves as Oil Heat

Flow of water around cans set into this bath warms contents and speeds lubricator filling.

STEAM cylinder oil, by reason of the high temperatures at which it must serve, is highly viscous and hard to pour at ordinary temperatures, and is frequently wasted when trying to fill relatively small lubricator fill fittings.

The waste water from the steam trap, flowing in a small but highly heated stream, is used through an ingenious water bath to bring up the oil temperature to where the lubricant will flow freely. A heater, formed to fit fairly closely around the two containers used for the oil, is made up so that the two units will be supported just off bottom, with inlet and outlet pipe connections so that the discharge from the steam trap will flow into the bath, maintaining water level around the lower two inches of the cans, but escaping through the overflow without slopping over onto the floor, even when both cans are set into the bath at once.

A curved section of lid between the openings for the two cans cuts down the tendency of the containers to tip when holding but a small quantity of lubricant, while the spacer feet maintain the units upright when filled.

☆ ☆ ☆ ☆ WASHINGTON ROUNDUP ☆ ☆ ☆ ☆

Oil Industry, PAW and Congress May Ask President to Check Oil Price Muddle

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Canol Project Under Review By House Oil Group and Truman Committee

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Quality of Civilian Gasoline Cut by PAW

»

By B. F. LINZ
Washington Correspondent

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DETERMINATION of the industry, PAW and Congressional interests to press the fight for a crude-price increase despite its rejection by Stabilization Director Fred M. Vinson marked oil discussions in Washington last week, with indications that President Roosevelt may be asked to intervene personally to override his hold-the-line order.

In a letter to Vinson, Ickes indicated his intention of carrying further, and Davies told the House oil subcommittee that the next step might be an appeal to Economic Adviser ("Assistant President") James F. Byrnes or the White House.

Spurred by Congressional inquiries into the manner in which it proposes to spend up to $138,000,000 in the development of far-north Canadian oil, the War Department last week was disclosed to have instituted a thorough review of the much-criticized Canol project, finally calling upon PAW for information and advice after having totally ignored the oil agency in making its decision to expand the Fort Norman wells' production.

Army officers concerned with the project recently appeared at a joint meeting of the Truman committee of the Senate and the House Interstate Commerce Committee's oil group. The former is preparing a comprehensive report on the Army's Canadian oil activities and the latter went into the matter as part of its investigation of the oil situation generally.

Information regarding the status of the Canol inquiries was developed at a second hearing of the House oil group, at which Davies disclosed that while PAW was not asked for advice it nevertheless offered some, "free, gratis and for nothing," which was ignored.

Davies also disclosed that the shipment of oil from the United States to the Mediterranean theatre of war has ceased, except for special products not elsewhere obtainable, since the opening up of the Mediterranean, but without relief to the home situation because of rising military demand in other areas.

Indications of the increasing importance of the Pacific theatre of war were given by Davies in testimony that of 9000 railroad tank cars released as a result of pipe-line completions, 5000 have been shifted to the hauling of military products to the West Coast.

The remaining 4000 cars will be required for the movement of sour crude from the Permian Basin of West Texas-New Mexico to District 2 refineries. The 69,000 cars now in eastern oil service will have to be kept in operation at least through the winter, according to M. J. Gormley of the Association of American Railroads before a Senate interstate commerce subcommittee.

During the week, PAW made the first of what may be a series of cuts in the octane value and volatility of premium gasoline to get additional supplies of lead and other ingredients needed for military purposes, and now is making a study of the cost changes to refiners with a view to recommending to OPA that adjustments be made in price ceilings to pass the reduced cost on to the public.

PAW also has made application for assumption by Defense Supplies Corporation of the additional expense involved in the railroading of West Texas oil to District 2, and expects a decision within the week.

A pattern for our post-war industrial reconversion was drawn for the Senate by the Truman committee, which pointed out that a major problem to be dealt with involves the disposition of the plants constructed with government funds for the production of rubber, high-octane gasoline, toluene, etc. Several possible ways of getting these plants into peacetime use were outlined in the report.

An agreement has been reached between the Office of Censorship, Office of war Information, Navy and War Shipping Administration for relaxation of restrictions to permit the publicizing of the exploits of the Merchant Marine, which will permit the release of stories of tankers and other vessels involved in attacks by the enemy, carrying information as to ownership, yard where constructed, etc. The idea is to permit oil companies and other ship owners and builders to get recognition for their war effort.

Coming Events: The Truman committee this week may submit its report on the Canol project, in which the Army officials responsible for freezing of some $38,000,000 in the Canadian wilds are expected to be caustically criticized, and the House Naval Affairs Committee may initiate an investigation of the Elk Hills situation, with a hearing at which the Navy is expected to submit a new agreement for operation of the reserve by Standard Oil Company of California.

Officials Disturbed Over Price Refusal May Take Matter to President Roosevelt

Definite possibility that the crude price situation might be laid before President Roosevelt personally were raised last week in discussions of Stabilization Director Fred M. Vinson's 10,000-word rejection of PAW's appeal.

The matter was discussed before the oil group of the House Interstate Commerce Committee during the questioning of Davies and was the major subject of consideration at the quarterly meeting of the National Conference of Petroleum Regulatory Officials November 4.

At a press conference on the same day, Ickes said definitely he did not think any alternative to a price increase existed as an incentive to exploration, and Davies also expressed doubt whether a program such as Vinson desired could be developed.

Later the regulatory officials heard a letter written by Ickes to Vinson, in which the Administrator indicated he would persist in his campaign for a better price, and before the Lea subcommittee Davies indicated that the matter might be carried to Economic Director James F. Byrnes or direct to the White House.

The regulatory officials were openly disturbed over Vinson's action, and while they canvassed the possibilities of subsidies as an alternative to price were unable even to suggest any scheme which might prove practicable.

In his letter, Ickes told Vinson the latter's decision was "disappointing to me" and expressed the hope that "it will not prove discouraging in the industry to the point of restricting development at a time when we so greatly need a stimulated activity as acknowledged by all who have studied the oil problem, including yourself.

"From the standpoint of oil supply, which is my responsibility, your statement does not alter at all my conclusion as to the necessity for an upward adjustment in oil prices and I am sure that you did not expect it to do so."

Ickes declared PAW has already pursued the means suggested by Vinson to increase supply, such as moving more West Texas oil, increasing the use of

foreign oils so far as permitted by the tanker situation and foreign refining capacities, and relaxing the spacing requirements as additional drilling materials become available, wherever such additional drilling "will actually provide more oil rather than merely more holes in the ground."

"The ultimate objective of our efforts is, as you know, not alone to provide for all military demands and the present restricted civilian rations of gasoline and oils," he said, "but, if possible, to eliminate eventually the necessity for restrictions upon civilian use and to protect adequately and in the broadest sense the oil future of the country. That objective springs from our concern for the future welfare of the same unnumbered millions of wage earners, producers, and merchants of whom you speak. Aside from military considerations, an increase in price to stimulate production is only justified, of course, if it returns full value to the American public. I have been convinced, and remain convinced that the price increase recommended would so return full value.

"We have already stated our conviction that, in the absence of any tested or tried alternative, a general price increase would be the most practical and best financial device for minimizing the risks of crude oil shortages in this country. No subsidy plan or proposal yet developed has met even your very general tests of simiplicity and the avoidance of impossible administrative burdens, on the one hand, or the dangers of grave misuse of public funds on the other. However, at the forthcoming meeting of the Petroleum Industry War Council I shall ask that body for its cooperation in further attempting to determine what plan or program, if any, other than a general price increase, might be designed within the general limits that you have prescribed.

"I trust that you recognize that under any subsidy plan the inherently speculative character of the whole business of finding and producing oil would compel public rather than private funds to be gambled upon what your decision calls 'prospectors luck.' I only hope that if this should be done, the Congress and the people would remember, after the moneys were spent, that wildcats are usually dry and only seldom successful, and that losses, not profits, are to be expected.

"While I receive your decision in the spirit in which I know it was rendered, the problem, as such, remains unsolved. We cannot, therefore, be at rest on the present basis and you will hear further from me."

The question of policy was pursued further on November 5, when the questioning of Davies was concluded with the Deputy Administrator supporting Brown's contention that a definite policy is needed, by admiting that if the upward trend in civilian gasoline consumption continued at the rate of the past few years our reserves after the war may be insufficient to meet domestic demand.

Davies told Brown that the country could not stand another war 10, 20 or 30 years hence on anything like the scale of the current war, so far as oil is concerned, without foreign sources of supply. "The next war of comparable scale," he declared, "will not be fought on United States oil."

PAW has discussed the question of policy with other agencies and such discussions are continuing, he said, expressing confidence that Ickes already had laid the matter before President Roosevelt. There also have been discussions in the industry, he added, drawing from Brown the comment that industry frequently is ahead of government in such matters.

Aviation gasoline output will shortly approach the 400,000-barrel a day mark, it was disclosed by Davies. He recalled that at the previous hearing he said it is now in excess of four times as much as the 45,000 barrels daily produced early in 1942. The Deputy Administrator explained that military restrictions had been lifted somewhat, so that he could say that "within a few months our total production capacity for 100-octane will be more than eight times what it was in January, 1942."

An AA-1 priority, he disclosed, was granted November 4 by WPB for the materials needed for the plants under construction, and while he could make no definite statement in view of the uncertainties of the future, Davies expressed the belief that the present program will be adequate to meet military requirements.

Under questioning by Brown and Representative Oren Harris of Arkansas, temporary chairman, Davies admitted that PAW has been unable to conceive of any substitute for a price increase to do the job that is necessary to be done. "However," he added, "we never say die, and it may be that somebody can come forward with a brand new idea."

No calculation ever has been made of the comparative costs of a price increase and a subsidy, but the latter, he declared, is "impractical, inefficient and in many respects dangerous."

"In other words," Harris interjected, "the whole position then is based not on the judgment of experienced men but on so called economic minded men in order to strictly 'hold the line'."

"Aside from the view of PAW itself," Davies replied, "I think you would find that to be the view of oil men over the United States, so I do think I can say with assurance that is the experienced oil man's very positive view."

Harris also asked whether any plans had been made for Alaskan development, and was told that PAW and the Army are working on a plan to develop both in and outside of Naval Reserve No. 4. "Indications are very interesting and we think it very worth while pursuing," Davies said.

Davies, in his final statement, said he knew of no scheme for a $30,000,000 loan to Mexico for exploratory development, explaining that PAW was closely informed on the negotiation of such loans and, since it had no knowledge, "I would doubt the report has any foundation."

PIWC to Study Extensively Vinson's Price Refusal

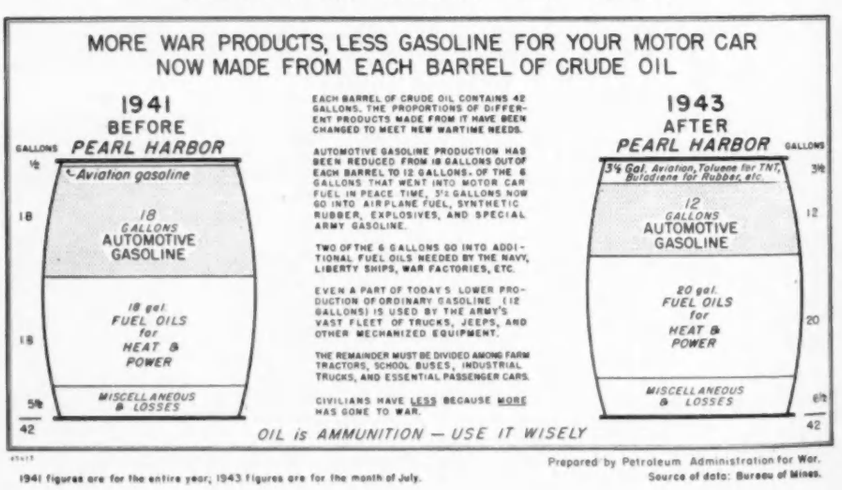
Refusal of Stabilization Director Fred M. Vinson to approve a price increase on crude was "keenly disappointing" to the industry and will be the subject of extensive consideration at the Chicago meeting of the PIWC, it was declared by Chairman William R. Boyd, Jr., after reading Vinson's lengthy opinion.

Boyd's statement was typical of the reaction of the industry, particularly of the independet operators who have consistently urged an increase in price to enable them to expand their wildcatting operations.

"The decision of Director Vinson rejecting the recommendation of Administrator Ickes for an overall increase in the price of crude oil will be keenly disappointing to those engaged in supplying this important raw material," he said.

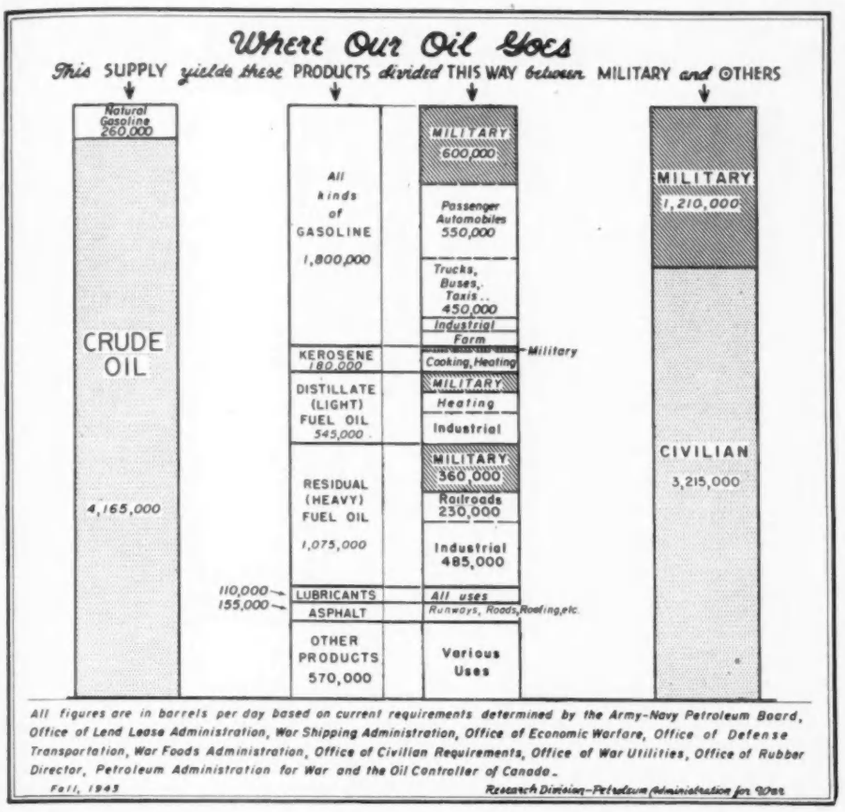
"The petroleum industry, with substantial unanimity, endorsed the recommendation of PAW, believing that conditions of supply justified completely such action by the government as a practical measure to increase oil reserves and accelerate activity to locate new sources of supply. Having supported the administrator in his recommendation, if the fear about possible future shortage of crude oil supply expressed by the industry and the administrator should prove well-founded, the industry and PAW cannot be blamed."

GASOLINE GOES TO WAR


MORE WAR PRODUCTS, LESS GASOLINE FOR YOUR MOTOR CAR
NOW MADE FROM EACH BARREL OF CRUDE OIL
1941
BEFORE
PEARL HARBOR
GALLONS
½
Aviation gasoline
18
18 GALLONS AUTOMOTIVE GASOLINE
18
18 gal. FUEL OILS for HEAT & POWER
5½
MISCELLANEOUS & LOSSES
42
EACH BARREL OF CRUDE OIL CONTAINS 42 GALLONS. THE PROPORTIONS OF DIFFERENT PRODUCTS MADE FROM IT HAVE BEEN CHANGED TO MEET NEW WARTIME NEEDS.
AUTOMOTIVE GASOLINE PRODUCTION HAS BEEN REDUCED FROM 18 GALLONS OUT OF EACH BARREL TO 12 GALLONS. OF THE 6 GALLONS THAT WENT INTO MOTOR CAR FUEL IN PEACE TIME, 3½ GALLONS NOW GO INTO AIRPLANE FUEL, SYNTHETIC RUBBER, EXPLOSIVES, AND SPECIAL ARMY GASOLINE.
TWO OF THE 6 GALLONS GO INTO ADDITIONAL FUEL OILS NEEDED BY THE NAVY, LIBERTY SHIPS, WAR FACTORIES, ETC.
EVEN A PART OF TODAY'S LOWER PRODUCTION OF ORDINARY GASOLINE (12 GALLONS) IS USED BY THE ARMY'S VAST FLEET OF TRUCKS, JEEPS, AND OTHER MECHANIZED EQUIPMENT.
THE REMAINDER MUST BE DIVIDED AMONG FARM TRACTORS, SCHOOL BUSES, INDUSTRIAL TRUCKS, AND ESSENTIAL PASSENGER CARS.
CIVILIANS HAVE LESS BECAUSE MORE HAS GONE TO WAR.
1943
AFTER
PEARL HARBOR
GALLONS
3½ Gal. Aviation, Toluene for TNT, Butadiene for Rubber, etc.
3½
12
12 GALLONS AUTOMOTIVE GASOLINE
20
20 gal. FUEL OILS for HEAT & POWER
6½
MISCELLANEOUS & LOSSES
42
OIL is AMMUNITION — USE IT WISELY

1941 figures are for the entire year; 1943 figures are for the month of July.

Prepared by Petroleum Administration for War.
Source of data: Bureau of Mines.


Where Our Oil Goes
This SUPPLY yields these PRODUCTS divided THIS WAY between MILITARY and OTHERS
Natural Gasoline 260,000
CRUDE OIL
4,165,000
All kinds of GASOLINE 1,800,000
KEROSENE 180,000
DISTILLATE (LIGHT) FUEL OIL 545,000
RESIDUAL (HEAVY) FUEL OIL 1,075,000
110,000
155,000
LUBRICANTS
ASPHALT
OTHER PRODUCTS 570,000
MILITARY 600,000
Passenger Automobiles 550,000
Trucks, Buses, Taxis 450,000
Industrial
Farm
Military
Cooking, Heating
MILITARY
Heating
Industrial
MILITARY 360,000
Railroads 230,000
Industrial 485,000
All uses
Runways, Roads, Roofing, etc.
Various Uses
MILITARY 1,210,000
CIVILIAN 3,215,000
All figures are in barrels per day based on current requirements determined by the Army-Navy Petroleum Board, Office of Lend Lease Administration, War Shipping Administration, Office of Economic Warfare, Office of Defense Transportation, War Foods Administration, Office of Civilian Requirements, Office of War Utilities, Office of Rubber Director, Petroleum Administration for War and the Oil Controller of Canada.
Fall, 1943
Research Division—Petroleum Administration for War

PAW Orders Lower Octane for Civilian Fuel to Conserve High Octanes for Army

First step toward the predicted lowering of civilian-gasoline octane values (THE OIL WEEKLY, October 18) was taken by PAW November 2 with issuance of orders to refiners to reduce premium gasoline from 78 and 80 octane to 76 octane as a step to conserve tetraethyl lead and volatile gasoline fractions for military gasoline.

Regular gasoline will continue at its present level of approximately 72 octane, but is slightly reduced in volatility.

It was explained that the specifications for both premium and house-brand motor fuels were reduced because refiners were having considerable difficulty in meeting volatility requirements both for military and civilian uses.

At the same time, PAW released charts showing the products and distribution of the oil output, designed to show how one third of the total gasoline production now is required for military purposes. Next year, it was pointed out by Ickes in an explanatory statement, military requirements will exceed 37 percent of the total gasoline produced east of the Rocky Mountains and 52 percent in the Rocky Mountain and Pacific Coast regions.

"More than 30 percent of all our gasoline must now go straight to power the expanding bombing attacks, expanding fighter missions, expanding air transport operations all over the world and to fuel the thousands of tanks, jeeps, trucks and motorized artillery on literally hundreds of separate fighting fronts—and the need will increase until this war is won," Ickes said.

"More than 25 percent of all our light fuel oil must go straight to military power plants, machinery and fighting equipment.

"Approximately 30 percent of the heavy fuel oil we produce goes straight into the bunkers of our expanding Navy, merchant marine, and for dozens of other direct military power uses.

"About one quarter of the kerosine available today must likewise go straight to war—to warm the quarters of thousands of soldiers in arctic outposts, for cooking and lighting purposes along the global service lines of the Fighting Quartermasters."

PAW also released a chart depicting why civilians have less gasoline, showing the major products now turned out from a barrel of petroleum as compared with before the war.

The chart shows that in 1941, one half gallon of aviation gasoline, 18 gallons of automotive gasoline, 18 gallons of fuel oils and 5½ gallons of miscellaneous products and losses made up a barrel of crude, while today, three and one half gallons of aviation gasoline, toluene, butadiene, 20 gallons of fuel oil, six and one half gallons of miscellaneous products and losses leave only 12 gallons of automotive gasoline and part of that goes to meet Army requirements.

Shortages to Determine Price Adjustments on Oil Products

OPA on November 2 laid down a policy that individual adjustments in ceiling prices of petroleum products, at all sales levels, may be made where local shortages exist, extending to oil the same procedure as has been applied to many other commodities.

Major factors for making adjustments under such conditions, it was explained are:

1. There exists or threatens to exist in a particular locality a shortage in supply of products which aid directly in the war program or are essential to a standard of living consistent with the prosecution of the war;

2. Such local shortage will be substantially reduced or eliminated by adjusting the maximum prices of sellers of such products; and

3. The adjustment will not create or tend to create a shortage or a need for increase in prices in another locality and will effectuate the purposes of the Price Control Act.

Gasoline Inventories Gain But Tank Car Shipments Off

East Coast inventories of gasoline increased from 34.9 to 36 percnet of normal during the week ended October 30 but "are not being built up as rapidly as we had planned," it was reported by Ickes in the PAW weekly supply bulletin November 4.

Kerosene stocks advanced from 51.6 to 51.9 percent and heating oil supplies were best of oil, increasing from 53.1 to 55.7 percent, it was shown.

Tank car deliveries to the East Coast during the week averaged 748,496 barrels daily, compared with 757,530 barrels during the preceding week, the decline being expected to continue as the volume of movement by pipe line is increased.

Importations of natural crude are being received from South American, Mexican and other sources which it was estimated will permit maintenance of a minimum stockpile for three years or more.

Commission Reports on Tanker Construction

A total of 16 standard tankers, three coastal tankers, two private coastal tankers and three concrete barges were delivered among the 163 cargo vessels turned out in the nation's shipyards in October, and 19 Liberty ships were modified into tankers, according to the monthly report of the United States Maritime Commission.

Deliveries, by yards, included four tankers from the Alabama Dry Dock & Shipbuilding Company, Mobile; three coastal tankers from the Barnes-Duluth Shipbuilding Company, Duluth, Minnesota; two concrete barges from Barrett & Hilp, San Francisco; one tanker from the Bethlehem-Sparrows Point Shipyard, Sparrows Point, Maryland; one concrete barge from Concrete Ship Constructors, National City, California; seven ET-1 tankers from Delta Shipbuilding Company, New Orleans; four tankers from the Kaiser Company, Swan Island, Portland, Oregon; one coastal tanker from Lancaster Iron Works, Perryville, Maryland; seven tankers

from Sun Shipbuilding & Dry Dock Company, Chester, Pennsylvania, and one coastal tanker from the Todd-Galveston Dry Docks, Galveston, Texas.

The commission on November 3 announced it had approved an incentive-compensation system through which Sun Shipbuilding hopes to speed production and cut man-hour requirements in the construction of tankers.

The new system would give added compensation of one percent of their monthly salary to supervisory employes for each 7500 man-hours saved in the construction of tankers directly under their supervision up to eight percent, with one half percent for each 7500 hours thereafter.

The plan is designed to give supervisory personnel some of the advantages enjoyed by wage earners who are eligible for overtime pay. The company figures that the actual cost in added compensation will be about $1000 per 7500 man-hour unit, but the saving in construction cost will be $7500, or a net of $6500 after the added compensation is paid.

The yard has Maritime contracts to construct T2-type tankers of 16,600 deadweight tons with a carrying capacity of 135,000 barrels. An average of 690,000 man-hours is now required for the construction of each tanker.

Guayule Program Cut Short By No Appropriations

A House appropriations subcommittee last week turned down Department of Agriculture plans for a long-range synthetic rubber project, refusing to recommend an appropriation of $7,500,000 requests for extension of the guayule program.

The money was requested to permit the planting of additional acreages of guayule shrub which would not yield any rubber for use in the war effort unless the war should last beyond 1946, and to make contracts with individual farmers to plant guayule with a view to encouraging them to raise it as a farming enterprise.

The department originally asked $56,000,000 for the project but the appropriation was reduced to $13,000,000, and so far the results have not been statisfactory, the yield from 550 acres of guayule land being 450 short tons instead of the 600 tons estimated. To produce 20,000 tons of rubber annually, it was brought out at hearings before the subcommittee, it would be necessary to use between 140,000 and 180,000 acres of land.

Rubber Supply and Demand In Balance by End of 1944

Rubber supply and demand will be in practical balance by the end of next year, a Senate Agriculture subcommittee was told November 3 by Rubber Director Dewey.

The director disclosed that 1943 requirements now are placed at 500,000 long tons, against which we will have a new supply of only 300,000 tons, necessitating withdrawal of the balance from the stockpile, but that 1944 requirements will be 950,000 tons with new supply estimated at 900,000 tons.

Dewey was questioned as to the relative value of synthetic and natural rubber as a tire material, and gave the former a good reputation except, he said, that synthetic tires require greater care.

Oil Producers Launching New Vigorous Fight To Get Increase in Price of Crude Oil

Oil producers throughout the nation are taking up new offensive positions and are preparing another attack to force a raise in crude oil prices. This offensive comes on the heels of a crushing blow hurled by Fred M. Vinson, director of economic stabilization, who used 12,000 words—in wartime and during a white paper shortage—to say "NO" to concerted pleas for a minimum 35-cents-per-barrel raise.

Not dismayed by the third rebuff from the adamant administration, the industry is arming for another fight to jack up prices in line with current increasing costs and commodity indices. Producers have fought in vain for two years to get a raise, and it is not likely they will quit the battle at this stage.

The widespread demand for a fair increase is seen in statements made by producers, refiners, executives, writers, and politicians. The present plan calls for a by-pass of the stabilization bureau and a move to force congressional action to get the raise, although members from oil states say that the legislation would be hard to get. There was no doubt among members but what President Roosevelt would veto any definite bill framed to hike oil prices. And although members were confident they could rally enough votes to pass the bill, they believed it would be next to impossible to get the necessary two thirds to override a veto.

Senator Elmer Thomas of Oklahoma, long an advocate of higher oil prices, indicated he would move to attach a rider to the pending Commodity Credit Corporation bill which would secure the desired results. It was believed that success of this move, however, depends upon a coalition with dairy state senators who have indicated they are willing to join the move.

Numerous statements in opposition to Vinson's refusal were issued by oil country officials. Ralph T. Zook, president of the Independent Petroleum Association, declared the only course left the industry is through Congress. He described Vinson's statement "a reflection on the judgment and ability of Petroleum Administrator Ickes and leaders of the industry, all of whom have declared that a substantial increase is necessary.

"The oil industry refuses to be held responsible for the present critical condition of oil supply and for the acute shortage now in immediate prospect. The consumer of gasoline and heating oil should now know where to place the blame.

"It seems incredible that some person or small group in or outside the government can nullify the recommendations of so many who are intimately acquainted with the oil industry."

Zook pointed out that besides Secretary Ickes, members of 11 congressional committees, the Interstate Oil Compact Commission, numerous trade associations and 17 governors have expressed themselves as favoring a price hike.

"Every reason given for the refusal of a raise has been hashed and rehashed time and again and proved fallacious compared to the critical gasoline and oil shortage that faces the United States," he declared.

"The industry has been shunted from one person to another and from one agency to another. The industry now need waste no further time in efforts of this kind and the course is clearly cut. This course is through the Congress."

D. A. Little of Dallas, president of Magnolia Petroleum Company, asserted "the price of petroleum should be increased in line with the prices of other commodities. Costs of doing business have risen substantially. Materials are higher and labor costs have advanced materially. Petroleum industry prices were frozen at a level so low that we cannot replace the oil we are using at the prices we are getting for it.

"Increased drilling in proven areas may amount to 19,000 wells in 1944 and this will accelerate the exhaustion of those reserves. The petroleum industry is liquidating itself now at prices below replacement costs," Litle asserted in a statement.

J. D. Sandefer, Jr., of Breckenridge, Texas, newly elected president of the National Stripper Well Association, rallied to the fight of stripper operators. "We have been knocked down so many time in this mater it was not a new experience for the owners of stripper wells to get it again. It is beyond human conception how a limited few can continue to ram this absurd injustice down the throats of the American people," he declared.

President K. S. Adams and Chairman Frank Phillips of Phillips Petroleum Company said, "to maintain the oil industry's contribution to the war effort it is necessary that OPA approve an adequate increase in the price of crude oil. Only by this means can the industry overcome the uncertainties and meet the high costs of intensive exploratory effort required to find new underground oil reserves."

William R. Boyd, chairman of the Petroleum Industry War Council, said Vinson's decision will be keenly disappointing to those engaged in supplying this important raw material.

"The petroleum industry, with substantial unanimity, indorsed the recommendation of the petroleum administrator, believing that conditions of supply justified completely such action by the government as a practical measure to increase oil reserves and accelerate activity to locate new sources of supply. Having supported the increase, if the fear about a possible shortage of crude oil supply expressed by the industry and the petroleum administration should prove well founded, the industry and the PAW cannot be blamed," Boyd asserted.

Representative Ewing Thomas of Texas declared he was disappointed but not surprised. "I still think there ought to be a price increase for crude oil, but I am afraid that there is nothing left to be done. Judge Vinson's decision makes it clear that any legislation designed to accomplish the increase would be vetoed. I do not like the incentive payment plan which would force more independents

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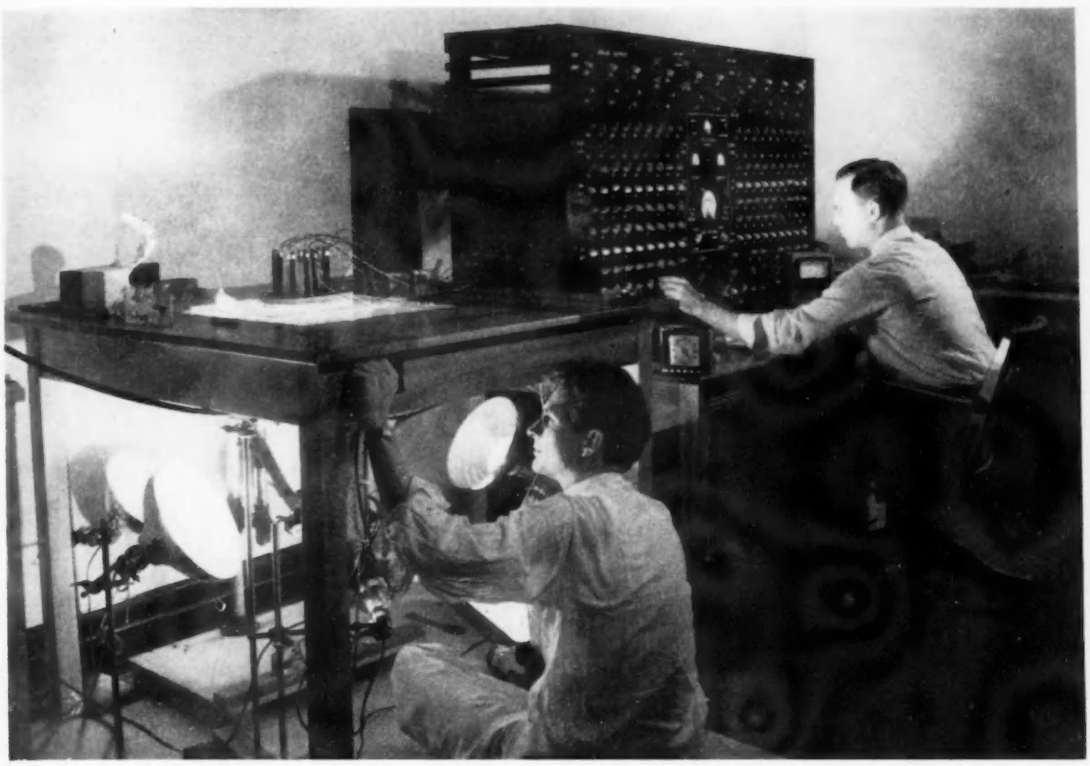

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out of business, but it appears to be the only thing left for the industry," Thomas declared.

Representative Wesley E. Disney of Oklahoma, chairman of the informal house bloc which was organized to fight for the increase, asserted that independent oil men "owe the administration vengeance for this decision, and I am sure they will work to get it."

He said he would confer with other members of the bloc to determine what the next step will be. He is author of a bill which would increase the price of oil an average of 70 cents per barrel, but which has been buried in the banking and currency committee under administration pressure.

Charles R. Roeser of Fort Worth, chairman of District Three of PAW, which includes Texas, Louisiana, New Mexico, Mississippi, and Alabama, declared that an aggressive fight will be made in Congress for an increase. "I do not think that a subsidy is workable. In the first place, only two weeks ago Congress went on record for prohibiting any subsidies after December 31," Roeser said.

Governor John J. Dempsey of New Mexico asserted that "too much theory and not enough practical knowledge is being used in management of the oil problem, and it looks like we are going back to the horse and buggy days, except we'll be minus the horse. There is no doubt that the oil situation is the most serious situation confronting the American home front today; and furthermore, it is being mishandled."

H. P. Nichols, executive vice president of the East Texas Oil Association, issued a statement, saying, "the productibility of present wells in this country has been reached and is on the decline. Yet the military demands rise week by week. The price of oil is so low drilling activities are being curtailed on all sides. Operators cannot afford to gamble on striking oil with no hopes of getting their money back, much less a fair, reasonable profit.

"Wages and prices of other commodities have been stabilized above parity, that is, above what they were in 1926. The price of oil and its products has been established at about 62 percent of parity," he said.

Representative Gavin of Pennsylvania, predicting that the next big bottleneck in the nation will be oil, said "this bottleneck can be attributed to the shortsighted policies of the administrative forces in this 'hold-the-line' order." Questioning the wisdom of spending $138,000,000 on the exploration of an oil project in Canada, Gavin said if that sum had been invested in a Pennsylvania field, "it would have produced many millions of barrels of oil."

Ralph W. Gallagher, president of Standard Oil Company (New Jersey), was quoted in a dispatch from Caracas, Venezuela, as saying "I think the United States and South America are going to draw heavily on Venezuela for oil." Commenting on the price of oil, Gallagher said a rise in the United States price and resultant increased exploration for oil there would not damage the Venezuelan market for demand was too great.

He explained that he expected a continuation of large requirements for oil after the war because use of gasoline in the United States is now curtailed sharply and relaxation of limitations would permit demand to rise.

Plan Symposium on Water Problems at Science Meet

The annual meeting of the Texas Academy of Science will be held at Austin November 11, 12, and 13. In connection with this meeting, the Gulf Coast, East Texas, College Station, and University of Texas sections of the American Institute of Mining and Metallurgical Engineers have jointly organized a symposium on underground water problems, which will be held in the East Room of the Stephen F. Austin Hotel, Friday, November 12.

The forenoon session will have as chairman J. M. Bugbee and H. H. Power. Charles Warner, chairman of the Petroleum Section, Houston Oil Company, will report on the state of the AIMME and the Los Angeles meeting; W. S. Morris and L. H. Dial, East Texas Salt Water Association, will discuss problems of salt water disposal in East Texas; W. O. George and W. N. White, U. S. Geological Survey, will present a paper on "Quantitative Studies in Ground Water in Texas"; F. W. Rolshausen and F. W. Jessen, Humble Oil Company, are to present a paper on "The Chemistry of Waters Encountered in the Frio Formation of the Gulf Coast"; and Fred Barclay and F. B. Plummer, University of Texas, will discuss micro-organisms in oil field waters, with lantern slide illustrations.

The members of the AIMME, geologists and geographers will have a joint luncheon Friday noon in the main dining room of the Stephen F. Austin Hotel, at which time Dr. Fred Bullard will give a lecture on "Recent Volcanoes of Mexico," illustrated by colored slides.

The afternoon session of AIMME will be presided over by R. W. Erwin and Harold Vance as chairmen. Paul Weaver, Gulf Oil Company, will discuss the need for more hydrology; W. R. Berger, consulting geologist and engineer, Fort Worth, will present a paper on "Geological Significance of Oil-Field Waters and Their Relationship to Structure and Production"; I. W. Alcorn, chief production engineer, Pure Oil Company, Houston, will talk on the closed system of the handling and disposal of oil field waters; and F. B. Plummer and Paul Tapp, University of Texas, will present a discussion of the chemistry of oil-field waters with special reference to water disposal problems.

The Geological Engineering Committee will meet in a post session discussion on the Promotion of Research and Investigation in Hydrology, with Paul Weaver as chairman. Discussion leaders will be W. N. White, Monroe Chaney, Walter Berger, H. H. Power, F. W. Jessen.

On Friday, concurrently, the Texas Academy of Science, Geography Section, will hold a forenoon symposium on Army geography, and an afternoon symposium on agricultural geography.

The Texas Academy of Science and the American Institute of Mining Engineers will meet in a joint session Saturday on Geology and Geography. Presiding officers will be W. A. Price and C. L. Baker. The following papers will be presented: "Japan's Strategic Materials," by F. A. Burt, president, Texas Academy of Science; "The Greater American Desert," by W. A. Price, consulting geologist, Corpus Christi; "A New Natural-Resource Map of Texas," by E. H. Sellards, director of the Bureau of Economic Geology, University of Texas; "Some Characteristics of Subsurface Formations in Peninsular Florida and Suggested Correlations with Other Gulf Coast States," by Mrs. P. L. Applin, University of Texas; "Recent Geological Deposits in the Vicinity of San Antonio," by H. B. Parks, chief of the State Agricultural Research Laboratory, San Antonio; "Some New Fossils from North Texas," by H. J. Sawin, University of Texas; "Geologic Research, a Necessity, Not a Luxury," by M. M. Kornfeld, consulting engineer, Houston; "Disposal of Oil-Field Waste Waters in Streams," by J. G. Burr, Game, Fish and Oyster Commission; "Micro-Flora of Several West Texas Oil-Field Brines," by F. H. Allen, University of Texas, and Eloise McCabe, University of Texas.

Accountants Society Elects Officers and Directors

The Petroleum Accountants Society of Oklahoma held its yearly election of officers at the October 28 meeting in Tulsa, with the following officers chosen: E. E. Stewart, president; E. D. Loughney, first vice president; C. M. Southern, second vice president; C. E. Votrian, secretary and treasurer; D. D. Deardorff, assistant secretary and treasurer.

Directors elected for a term of three years included E. H. Loosley, Continental Oil Company; C. M. Southern, Skelly Oil Company; C. E. Votrian, Bareco.

Houston Chapter of API Holds Fall Meeting

The Houston Chapter of the American Petroleum Institute at its fall meeting at the Texas State Hotel, November 4, heard a paper on "Plug Back Work with Plastics in the East Texas Field" by J. E. Bailey of Tide Water Associated Oil Company. This was followed by an informal discussion of the application of this work to Gulf Coast wells, and the presentation of a scholarship award to Lamar Davis, apprentice seaman at The Rice Institute, for study in the field of chemical engineering. He was selected by the faculty as an outstanding student, and is a member of Phi Beta Kappa.

Gulf Requests Revision of Unit Lines in Yates Field

Revision of the unit lines in the Yates oil field was requested by Gulf Oil Corporation at a hearing before the Texas Railroad Commission, last week. The purpose of the request was to give Gulf a number of units in Section 38 equal to the number of units held by Ohio Oil Company in the adjoining Section 33. Gulf has six units, while Ohio has eight.

The difference in units is important, since average unit potential is the basis for 75 percent of the oil allocated in the field. Originally, both sections had six units, but as a result of the Smith-Turner suits settled a few years back, two additional units were created on the Ohio lease, which went to other operators, but which were subsequently purchased by Ohio.

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Bureau of Mines Forecasts 4,400,000 Barrels Daily Crude Output in November

Moving steadily toward new high records and having surpassed all previous peak figures in August, domestic crude production this month is expected by the Bureau of Mines to reach 4,400,000 barrels, 10 percent above the actual output in November, 1942.

The latest statistics available indicate that production during the four weeks ended October 2 was 4,351,000 barrels daily and runs to stills 4,185,000 barrels, with a decline in domestic crude stocks of 22,000 barrels, indicating a demand of 4,373,000 barrels daily.

"The outstanding change in the recent trends of demand is the rapid rise in the total demand for motor fuel resulting from the expansion in military requirements," the bureau said, in commenting on the general situation. "From present indications, this demand in the fourth quarter of 1943 should exceed that in the same period of any previous year except 1941. The rise in war demands may partly offset the seasonal winter decline expected in civilian gasoline consumption and require further increases in the refinery yield.

"These additional gasoline requirements, combined with record demands for fuel oils, are reflected in the rapid gains in crude production and runs to stills.

"A new record of 4,214,000 barrels daily was set by the August production of crude petroleum and further large gains are indicated for September and October. Daily average crude runs to stills of 4,094,000 barrels in August also represented a new monthly record, with a further increase to about 4,190,000 barrels daily shown by current weekly data for September. Comparing the latest current data with last March, crude production has risen by almost 500,000 barrels daily and runs to stills by about 570,000 barrels daily."

With increasing military requirements seen as partially offsetting a decline in civilian requirements because of seasonal influences and stricter rationing, the bureau estimated total motor fuel demand in November at 57,000,000 barrels, with an increase in finished stocks during the month of 850,000 barrels.

Direct sales of natural gasoline and imports are estimated at 2,800,000 barrels, making an indicated refinery production of 55,050,000 barrels, to be allocated among the various districts as follows: East Coast, Inland Texas, Texas Gulf Coast, Louisiana Gulf Coast and Inland Louisiana-Arkansas, 26,680,000 barrels; Appalachian, 1,890,000 barrels; Indiana, Illinois, Kentucky, etc., 11,680,000 barrels; Oklahoma, 2,550,000 barrels; Kansas, 2,800,000 barrels; Rocky Mountain, 1,450,000 barrels, and California, 8,000,000 barrels.

Benzol and natural gasoline to be blended at refineries are estimated at 5,540,000 barrels. Application of an estimated 39.2 percent yield to the straight-run and cracked gasoline production of 49,510,000 barrels gives total crude runs of 126,300,000 barrels, or 4,210,000 barrels daily.

Crude for export and to be used as fuel, and losses, is estimated as 7,700,000 barrels, making an estimated demand for domestic crude of 132,000,000 barrels, or 4,400,000 barrels daily.

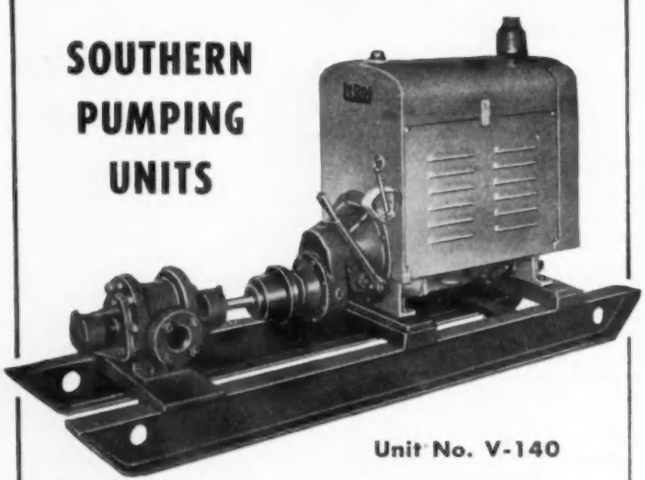
Drumright API Chapter Being Renewed

The Drumright chapter, division of production, American Petroleum Institute, covering parts of Creek, Lincoln, Payne and Pawnee counties of northern Oklahoma fields, was revived at a called meeting in Drumright. Herbert F. Beardmore, proration engineer for Barnsdall Oil Company, represented Carl A. Young, secretary of the production division, and Paul S. Hendrick, oil editor of Tulsa World, appeared for Herbert W. Ladd, general chairman of the Mid-Continent section.

Joe A. Huitt, superintendent of the Drumright office of Deep Rock Oil Corporation, was made temporary chairman, and Thad A. Hill, of Fluid Packed Pump Company, temporary secretary. Permanent officers will be named at a meeting set for late in November.

Twenty-five production men were enrolled in the chapter that succeeds the one that lapsed in 1936.

SOUTHERN PUMPING UNITS



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Gasoline and Light Fuels Gain While Heavy Stocks Decline

Gains in gasoline stocks and light fuels were noted during the week ending October 30, but heavy fuel oils declined.

An increase of 501,000 barrels daily in output of gasoline brought total accumulations to 69,297,000 barrels. A year ago the stock total stood at 76,612,000 barrels.

Light fuels were up 1,282,000 barrels, putting stocks at 44,591,000 barrels. The loss in heavy oils amounted to 909,000 barrels daily forcing stocks to 63,838,000 barrels as compared with 64,747,000 barrels a week ago, and 79,149,000 barrels a year ago. Production of light oils was estimated at 4,642,000 barrels against 4,572,000 barrels for the previous week and 4,258,000 barrels a year ago. Output of heavy oils was 7,968,000 barrels as compared with 7,649,000 last week and 7,054,000 barrels for the same period in 1942.

PAW reports that the gradual improvement in the heating oil position has increased the liklihood that it will be possible during the coming months to supply ration demand on the East Coast on at least as good a basis as last winter.

Several important developments affecting the oil outlook for the East were noted by Ralph K. Davies of PAW. They included:

The southwest emergency pipe line began moving more than 50,000 barrels of West Texas crude oil from Corpus Christi to Houston for trans-shipment eastward through the Big-Inch line. Much of this will be required for war purposes. Arrangements have been made with Canadian authorities for the movement of 200,000 barrels of heating oil into the western part of District 1, the East Coast. Agreement was given by Canadian authorities to the relinquishment of 600,000 barrels of crude oil which had been purchased and scheduled for shipment.

As compared with normal stocks, indices on Eastern Seaboard civilian supplies were as follows: gasoline, 36 percent; kerosine, 51.9 percent; light fuel oil, 55.7 percent, and heavy fuel oil, 79.5 percent.

Tank-car movements averaged 757,530 barrels daily, compared with 748,823 barrels daily for the previous week. Programmed movement of kerosine is sufficient, PAW reported, so that adequate supplies are expected because of the fact that the transportation situation is so much better this year than last.

With a total run to stills amounting to 4,176,000 barrels daily, refineries operated at 86.5 percent of capacity, an in-

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED November 6	October 30
Arkansas	78,950	78,450
California	790,200	785,500
Long Beach	30,750	30,500
Midway-Sunset	56,000	55,000
Kettleman Hills	42,300	41,750
Wilmington	94,200	92,750
Rest of State	566,950	565,500
Colorado	7,100	7,200
Illinois	227,800	213,800
Salem	29,800	26,400
Louden	35,600	33,900
Other New Pools	151,600	142,000
Old Pools	10,800	11,500
Indiana	13,300	13,350
Kansas	242,500	274,600
Kentucky	25,500	24,150
Louisiana	351,900	359,950
North	79,600	80,750
South	272,300	279,200
Michigan	51,800	54,400
Mississippi	52,200	46,200
Missouri	95	95
Montana	25,970	22,704
Nebraska	1,700	1,700
New Mexico	112,700	112,700
New York	14,500	13,750
Ohio	9,030	9,030
Oklahoma	330,400	329,400
Oklahoma City	51,700	51,250
Seminole Area	74,000	74,000
Rest of State	204,700	204,150
Pennsylvania	44,400	42,250
Tennessee	35	35
Texas	1,924,350	1,892,350
Upper Gulf Coast	524,500	519,500
East Texas Field	376,500	368,500
Rest of Eastern Texas	138,000	135,350
Lower Gulf Coast	197,250	189,250
Southwest Texas	80,250	78,600
South Central Texas	20,700	20,700
West Texas	359,850	354,000
North Texas	141,750	138,450
Panhandle	85,600	88,000
Utah	12	12
West Virginia	9,000	9,000
Wyoming	97,750	104,050
Total United States	4,411,162	4,394,646

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gas Oil & Distillate Stocks Barrels	Gas Oil & Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1939	3,910	8- 5	3,650	10-21	278,607	5-26	87,769	4-22	39,562	10-28	116,237	8-26
1940	3,890	3-16	3,690	6-22	265,865	8-31	102,817	4-20	49,051	10-19	109,135	9-14
1941	4,337	11-22	[1]4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	49,861	11-14	95,857	1- 3
1943	[1]4,412	10-16	4,227	8-28	245,752	5-29	94,159	3-20	44,591	10-30	72,881	1- 2
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1940	3,335	11-30	3,370	1- 6	237,339	1-27	79,847	11- 9	23,551	4- 6	102,344	2-10
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,381	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	65,518	10-16

TRENDS OF 1942 AND 1943

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gas Oil & Distillate Production Weekly	Gas Oil & Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1942:									
January 3	4,038	3,961	244,440	13,797	92,987	3,855	49,357	6,918	95,857
January 31	3,871	3,848	250,740	13,292	97,810	3,817	40,674	6,640	91,189
February 28	4,016	3,675	259,373	12,131	105,635	3,799	34,547	6,813	88,285
March 28	3,820	3,667	263,208	11,663	105,624	3,661	31,756	6,344	83,045
April 25	3,581	3,506	257,073	10,535	102,897	3,267	29,240	6,869	81,107
May 30	3,877	3,522	255,023	10,478	95,355	3,034	31,384	6,993	79,628
June 27	3,719	3,581	253,364	10,713	88,396	3,549	32,851	6,615	77,304
July 25	3,691	3,658	249,262	10,864	82,281	3,647	35,966	6,796	77,816
August 29	3,964	3,697	249,007	11,300	80,831	3,850	42,060	6,875	78,034
September 26	3,909	3,802	242,785	10,954	80,550	4,215	45,945	7,094	78,943
October 31	3,901	3,731	239,266	11,153	79,159	.....	48,131	.....	79,166
November 28	3,878	3,736	234,850	11,269	78,854	.....	49,739	.....	77,796
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	4,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	4,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 2	4,328	4,159	234,643	12,414	70,128	4,566	40,898	8,483	66,407
October 9	4,390	4,094	233,471	12,206	69,708	4,616	41,304	7,795	66,585
October 16	4,412	4,171	233,997	1 ,358	68,182	4,265	42,237	7,608	65,518
October 23	4,410	4,160	235,998	12,654	68,796	4,572	43,309	7,649	64,747
October 30, 1943	**4,383**	**4,176**	.....	**12,813**	**69,297**	**4,642**	**44,591**	**7,968**	**63,838**
October 31, 1942	3,901	3,746	[4]237,986	11,242	76,612	4,258	48,933	7,054	79,149
Change:									
In week	—27	+16	+2,001	+159	+501	+70	+1,282	+319	—909
In year	+482	+430	—1,988	+1,571	—7,315	+384	—4,342	+914	—15,311
In year	+12.4%	+11.5%	—.84%	+13.9%	—9.54%	+9.01%	—8.87%	+12.9%	19.3%

[1] All time peak. [2] Lowest since April, 1922. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [4] Stocks, October 24, 1942.

crease of 16,000 barrels daily as compared with last week.

Domestic gasoline production was 12,813,000 barrels against 12,654,000 barrels a week ago.

Daily average crude production dropped 27,000 barrels and totaled 4,383,000 barrels.

Texas-Illinois Gains Again Put Production on Increase

Crude oil production in the United States began its upward climb again during the week ended November 6, and reached a total of 4,411,162 barrels which is 16,516 barrels more than that of last week, when production slipped to 4,394,646 barrels. This week's total is exceeded only by that of October 23 which was 4,419,466 barrels, an all-time high.

The most substantial increase was in Texas, whose total of 1,924,350 barrels is 32,000 barrels more than its total of October 30. Other increases are reported from Illinois, 14,000 barrels, California, 4700 barrels, and slight ones from Montana, Pennsylvania, Kentucky, and Oklahoma.

Kansas was the only state to report a very large decrease. Its production fell 32,100 barrels to 242,500 barrels, as compared to 274,600 barrels the previous week.

Oklahoma Conservation Laws to Be Revised

The conservation department of Oklahoma has filed application with the corporation commission of that state for new general rules and regulations on conservation of natural gas and crude oil. This action was taken by the department after numerous requests by operators that conservation laws be brought down to date. Present general rules and regulations were issued in 1917, and, with a few minor exceptions, have not been changed since that time.

Meeting of the committee chosen to revise the rules and regulations was called for November 1, at which time it was asked to elect committee officers, appoint subcommittees, and transact any other business the committee considered proper.

Any meetings thereafter are to be called by the chairman. Any person interested in the oil or gas business in Oklahoma, whether or not a member of the committee, not only is welcome, but is urged to attend any and all committee meetings, and to offer suggestions on the proposed rules and regulations.

The conservation department of Oklahoma states that if any operator or royalty owner cares to submit suggestions to the department, it will be glad to prepare the suggestions in mimeograph form for consideration by the committee.

Proration Increased for Wells in Wasson Field

The Texas Railroad Commission has issued an order reducing the number of producing days in the Wasson field, Gaines and Yoakum counties, for the month of November. Wells will be permitted to produce 20 days instead of 22 days as provided originally, because there is insufficient pipeline outlet.

PIPE LINE REVIEW

20-Inch Products Line to Be In Operation in December

High-pressure water testing of the western leg of the 20-inch products line, from Beaumont, Texas, to Norris City, Illinois, is now under way, paving the way for the filling of the 667-mile line, which will go into operation within a month and be pushed to capacity as soon as necessary critical materials, particularly valves, are obtained for 10 of the 13 pumping stations, it was announced by PAW last week.

Heating oil and kerosine will comprise the cargoes moved first through the new line, for rail trans-shipment to the East, largely to New England and northern New York.

About 79 percent of the pipe on the 804-mile eastern leg has been welded and the line is expected to be completely laid by next month, with deliveries of oil to Linden, New Jersey, promised by early January if materials for the pumping stations are received on schedule.

PAW also announced that construction on the 16-inch Stanolind pipe line to move 65,000 barrels of crude daily from the Permian Basin to Drumright, Oklahoma, will begin next month.

Other pipe line developments reported were:

Facing delay in construction of six of the 16 pumping stations on the eastern leg of Big-Inch because of difficulty in securing valves and other materials, make-shift equipment has been installed in some in order to move as much oil as possible. When all stations are pumping, throughput of the eastern leg, now about 205,000 barrels daily, will probably increase to 250,000 barrels.

Pipe for the 335-mile 12-inch Magnolia line from Midland to Corsicana, Texas, has started rolling from the mills and construction crews will start stringing pipe as soon as it arrives. To be constructed in sections, the line is scheduled to begin operation next March.

Completion of two 8-inch feeder loops between Seminole and Midland, Texas, has been slowed up because of difficulty in securing labor.

Work on the 250-mile 8-inch Sinclair products line from East Chicago to Toledo has passed the half-way mark. The line is expected to begin operations next month, with a capacity of 30,000 barrels daily, products received at Toledo to be shipped eastward by Lake tanker during the open season and to maintain inventories in nearby Midwestern cities.

New Loading Rack Will Help Move West Texas Crude

Movement of West Texas crude by tank cars to supplement the present peak loads by pipe lines until two additional outlets are completed next spring is scheduled to begin December 1. Construction is under way on a 75-car capacity rack on the Texas and Pacific railroad adjacent to Midland tank farm of the Atlantic Pipe Line Company, which was designated by PAW to operate the rack. The program calls for the movement of from 15,000 to 25,000 barrels daily, which will be generally supplied by Humble Pipe Line Company through connecting lines from fields in Andrews and Ector counties. The bulk of this oil will be dispatched to the Colonial-Beacon Oil Compnay's Everett, Massachusetts, refinery, and other Standard Oil Company of New Jersey units on the East Coast. However, Magnolia Pipe Line Company may also make use of this extra outlet until its second line from the Permian Basin is completed.

Welding Begun on Line to West Texas

Welding operations began November 3 on the Midland end of the Magnolia Pipe Line Company's projected 336-mile 12-inch supplemental outlet from West Texas to Corsicana, and work on the east end is scheduled to start November 7 as 20 cars of pipe are available. A total of 46 miles of pipe has been unloaded, and about one-third strung to the east of Midland. Indications are that pipe deliveries will not retard construction. Magnolia Pipe Line Company has completed 44 miles of 8-inch loops. Extending south from Seminole and Andrews stations towards Midland, thus boosting the capacity from 27,000 to 41,000 barrels daily. Due to increased crude shipments into the Midland terminal, the company has booked additional space in Atlantic Pipe Line Company's Midland-Atreco trunk line, which is operating at top capacity of 41,000 barrels daily. Magnolia Pipe Line Company has been authorized to install an additional 80,000-barrel tank at Seminole and Andrews stations.

Special Session in Texas May Try to Block Gas Line

Prospects of a special session of the Texas legislature to increase the tax on natural gas grew last week after Governor Coke Stevenson returned from Washington. The governor seemed thoroughly disgusted with his Washington visit, and with the difficulty encountered in finding people in authority who could or would give him any information.

Searching for the pipeline permit, Stevenson was less successful. Several telephone inquiries by Walker failed to disclose the authority which might be consulted on this point, although Secretary Ickes was included with those queried. After he returned to Austin, Stevenson expressed the opinion that the only method of breaking up this deal, or saving something for Texas, if it cannot be broken up, is to increase the tax on natural gas. He thought perhaps some method of classification, based upon the distance the gas would have to be hauled, might form the basis for higher tax rates for gas to be exported from the state.

The governor declined to indicate a date for the session, which is not likely to be called before February or March.

In the event it is found impossible, the governor said, to set up some classification that would provide for higher rates for exported gas, a flat rate increase would not be too harmful for Texas operators, but would be discouraging when added to the overhead incurred by the long hauls.

U. S. Field Operations

Illinois

Operations Increase, New Pay Horizon is Discovered

An increase in Illinois oil operations with discovery of a new producing zone in the Concord pool of White County, highlighted oil activity in the state this week.

Operations moved up from 233 to 244, the largest increase in a single week in the past three months. Included were 175 wells drilling, 25 locations, 26 wells rigging tools, and 18 inactive tests. Of 38 first reports, six were wildcats.

Wildcat activity also was better with total operations sliding up from 57 to 59, of which 38 wells were drilling, nine were locations, four were rigging tools and eight were inactive.

Nineteen producers were completed for total initial production of 2593 barrels of oil daily. Eight dry holes were recorded. The Mt. Carmel pool of Wabash County continued to be the most active in the state with 32 operations.

The new pay horizon was the Tar Springs pool in the now McClosky producing Concord pool of White County. The discovery was made at Great Lakes Carbon Company's White County National Bank 1, SW SE NW 28-6s-10e. Pay was found at 2389-2300 feet and 7-inch casing was set to 2389 feet. Operators are waiting on cement.

Jefferson County: Nash Redwine's Casey 1, NE SW NE 6-3s-3e, near Mt. Vernon, was completed in the McClosky lime and was called an extension to the Mt. Vernon pool. On initial completion test, the well pumped 280 barrels of oil in 24 hours from pay at 2801-08 feet after treatment with 1000 gallons of acid. Total depth was 2810 feet.

Edwards County: Whisenant and Trenchard's Ina Dunk 1, NE SE SE 26-2s-10e, more than a mile from production and a discovery well, is drilling deeper to test the Cypress sand after a shot that virtually ruined chances of good production in the Waltersburg sand. The well pumped 20 barrels of oil in 24 hours after the shot had damaged pipe and a squeeze job was run. The operators' east offset, Dunk 2, NW SE SE 26-2s-10e, swabbed 196 barrels of oil in 24 hours natural, from Waltersburg sand.

Superior Oil Company's Lipper 1, NW NE SE 28-1s-14w, 4 miles northeast of Albion, which had apparently commercial shows in both the Benoist and Cypress sands, has set casing to 2995 feet for a test of McClosky lime at 3038-39 feet. If the McClosky fails, the other pays will be tested. Total depth is 3091 feet.

The same company's Jack 1, SE SE SW 5-2s-14w, considered 1½-mile extension of the Albion pool, had Benoist pay at 2836-64 feet and is now cleaning out after a 60-quart shot. The well is expected to make 150 to 200 barrels daily.

Wayne County: The Texas Company's Hoffee 1, NE NE NE 9-1n-6e, a discovery 2 miles north of Johnsonville, was cleaning out with 700 feet of oil in the hole after the well had been treated with 1000 gallons of acid. Saturation was recovered in the lower O'Hara when a core was cut at 3193-98 feet.

Indiana

Operations Fall Off but Wildcat Starts Gain

Activity in Indiana showed a slight drop this week, with operations falling from 78 to 75. Included in the work were 40 wells drilling, 17 locations, five wells rigging tools and 13 inactive tests. First reports dropped from 12 to seven but showed three wildcats, an increase of two from last week.

Wildcat operations totaled 29, of which 13 were drilling, seven were locations, two were rigging tools and seven were inactive.

Five wells were completed for a total initial production of 377 barrels daily. Three dry holes were reported and two locations were abandoned. The most active pool in the state was the Hazleston pool with seven operations.

Kentucky

Shallow Discovery in Ohio County Pumps Five Barrels

A discovery well with small production from shallow sand was recorded this week in Ohio County, Kentucky. The well was Anton and Holeman's Handley 1, 17-M-32, which pumped five barrels of oil in 24 hours from Tar Springs sand encountered at 508-53 feet. Total depth was 599 feet.

Operations in the state fell off slightly, dropping from 80 to 78. They included 67 wells drilling, four locations, five wells rigging tools and two inactive tests. First reports totaled 11, the same as last week.

Wildcat operations also moved down with 27 in various stages as compared with 30 a week ago. The activity included 21 wells drilling, two locations, two wells rigging tools and two inactive tests. First reports dropped from five to three.

Five producing wells were completed with a total initial production of 266 barrels. Seven holes were dry and one location was abandoned.

M. P. Evans and associates' Bessie Boswell 1, 14-O-18, in Union County, completed a week ago in the Aux Vases sand for 127 barrels on pump, was named the discovery of the Raleigh pool. This well is located three miles northwest of the Spring Grove pool.

Report on East Texas Wells Must Be Filed with State

A well status report from each well in the East Texas oil field must be filed with the Texas Railroad Commission prior to January 1, 1944. This was provided in an order issued by the Texas Railroad Commission last week.

Kansas

Globe County Wildcat Proves Trend Theory

The existence of another parallel producing stringer to the main Barton arch that sweeps in a northwesterly direction through Kansas has been forecast for a long time, and Globe Oil & Refining Company at Snyder 1, a wildcat in SEc of 8-14-29w, near Jericho, in Globe County, helps prove the theory. It found the Viola lime at 4424 feet and stopping at 4427 feet, bailed 8 barrels of oil and 4 barrels of water an hour. It will be acidized.

Atlantic Refining Company is confident it will open a new pool at Gobleman B-1, SE NW NW 35-21-34w, more than a mile from the Nunn pool of Finney County. It is making 3 to 4 barrels a day from the Mississippi lime at 4648 to 4680 feet. Pipe-line equipment is awaited and operators will not make a thorough pumping test until outlet is provided.

A new angle to the approaching union of the Zenith pool of eastern Stafford County and the northeast-southwest trending Peace Creek pool of Reno County appeared imminent when The Texas Company's Hornbaker 2, SW NW SE of 32-23-10w, Reno County, missed the Viola lime and picked up the Arbuckle lime at 3730 to 3747 feet, and on a drill-stem test filled 2100 feet with oil in one hour. Field men say this is the first Arbuckle oil for the two areas.

Oklahoma

Pauls Valley Area Has Drilling Campaign

Thanks to 20-acre spacing, around 25 test wells are drilling in the Pauls Valley pool of Garvin County. Production is sought in both the Pennsylvanian and Bromide formations.

The Texas Company's Patchel 2-A, NWc SW 25-4n-1w, on a 25-minute drill-stem test from 4035 to 4080 feet, showed 4,000,000 feet of gas and sprayed oil at estimated rate of 35 barrels an hour. Cox 2, C SW SE 25-4n-1w, tested from 3994 to 4020 feet to show 6,000,000 feet of gas and spray at rate of 30 barrels an hour.

Ohio Oil Company and others' Huckaby 2-A, NWc SE 25-4n-1w, at 4046 feet, flowed 257 barrels of oil in 9¾ hours, and on its potential test got a rating of 2332 barrels a day. No 2-B, NW SW NE, of the same section, was drilling below 3675 feet. Their Hutchins 1-B, SE NW NW 25-4n-1w, stopped at 4015 feet, 6 feet in the Pennsylvanian, and on a drill-stem test flowed 54 barrels, and is now rigging standard tools. Their Teter-Adams 2-A, NW SW SW 30-4n-1e, was repairing above the Pennsylvanian at 3935 feet.

The Pure Oil Company's Teter 10, SE NW NE 31-4n-1e, drilled to 4145 feet, and tested for a potential of 337 barrels a day.

The Pure Oil Company with Conti-

nental Oil Company at McCrummon-Collins 1, NW NE SW 25-4n-1w, was taking a potential at 4066 feet, and McCrummon-Collins 2, SE NE SW 25-4n-1w, was drilling below 1800 feet, while Collins-Hickman 1, SEc SW 25-4n-1w, was below 3068 feet, and No. 2, NW SW SW of the same section 25, was waiting for rotary.

Anderson-Prichard Oil Corporation's Maxey 1, SE NE NW 36-4n-1w, was below 3200 feet.

Because the Mid-Continent Petroleum Corporation discovery of a potentially large oil area near Moore, in northern Cleveland County, promises to develop new drilling and extra hazards, the United States Navy is abandoning its auxiliary air field in Section 28-10-3w, one mile east of the discovery well in Section 29-10-3w. The well is idle while crew whipstocks around 1600 to 1800 feet to get by floating cement plug. The second Wilcox sand was from 8780 to 8792 feet.

Vagaries of oil formations was emphasized in several completions. Mid-Continent Petroleum Corporation's Massey Miller 1, NEc SW 24-12-8e, south of discovery well of Northeast Dill pool of Okfuskee County, missed the Cromwell sand and abandoned at 3604 feet.

Midco Oil Corporation and H. W. Peabody at Community 1, in NE NW NE 24-12-8e, the discovery well, made 2500 barrels from 3490 to 3506 feet.

Irving Perrine and associates announce staking of location for Loveless 1, NWc NE 14-7n-1w, southeast of Noble, for a wildcat that may be the key to a search for deep production in southern Cleveland County. The community block comprises 840 acres.

Carter Oil Company's twin wildcats in McClain County, continue to hold attention as they seek the base of the Pennsylvanian. Cottingham 1, C SE SW 4-7n-3w, near Washington high, was below 9190 feet in lime and Johnson Ranch 1, C SW NE of 13-8n-4w, near the town of Blanchard, was below 7670 feet in shale and broken lime.

A new Bartlesville sand pool east of Norman in Cleveland County is indicated by Phillips Petroleum Company's Gopdin 1, SWc SE 33-9n-1e, showing oil and gas in cores and wet gas on drill-stem test from 5692 to 5762 feet. It is drilling in Hunton lime below 5775 feet.

L. D. Youngblood's Swatek 1, C NW SW of 7-11-4w, near Bethany, in extreme western Oklahoma County, was awaiting orders at 8584 feet in dry Second Wilcox sand. Several upper horizons indicated porosity and drilled "tight" most of the way, it developed a hot lease play around it and extending across the line into Canadian County.

E. K. McLennan and others' Nelson 1, SEc SW of 30-6n-12w, near Granite, in eastern Greer County, has opened a shallow gas area. At 951 feet it blew out and made an estimated 2,500,000 feet of gas. It will be tested.

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West Texas

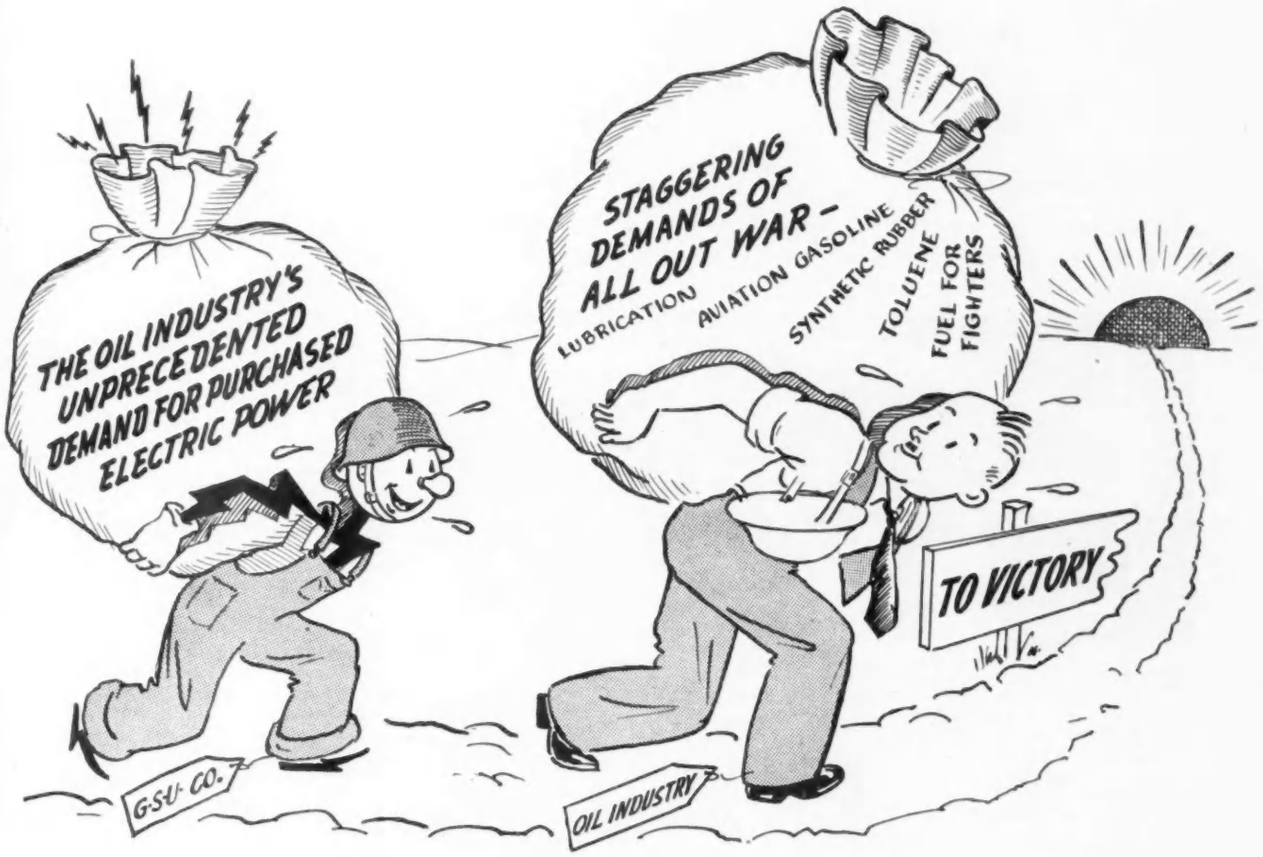
Hockley County Gets First Clear Fork Producer

Discovery of a new pool and the first production from the Clear Fork section of the Permian in Hockley County was in prospect when Woodley Petroleum Company's Harless 1 C NW NW Section 21, Block A, R. M. Thompson Survey, bailed down near bottom at 5939 feet to yield 75 percent 29-31-gravity oil and the balance rotary fluid. Production is from broken saturation at 5879-92 and 5917-30 feet. This wildcat will be deepened with tools to water, then plugged back for acid treatment. Top of the San Andres and Glorietta was at 3740 and 5190 feet, respectively. Globe Oil & Refining Company's Elwood 1, Lab. 8, Leag. 6, Wilbarger CSL, topped the San Andres at 3810 feet, and was drilling at 5610 feet. Brown & Wheeler's French 1, also a Clear Fork prospect for Hockley County, is drilling lime at 5320 feet, having entered the San Andres at 3670 feet with an elevation of 3589 feet.

Andrews County: C. U. Bay et al's Bitler-Lowe 1, 1¾ miles east by north of nearest production in the rapidly expanding Fullerton field, recovered 100 barrels of oil on a preliminary swabbing test from broken Clear Fork pay at 6900-84 feet, and will be deepened. This outpost registered a structural dip in topping the San Andres at 4530 feet and Glorietta at 5770 feet with an elevation of 3319 feet. Leases between this well and the field proper are assured of production, and will be drilled as rigs become available.

Humble Oil & Refining Company's Crews & Mast 1, 3 miles west by north of Means field, will test several horizons in the Lower Permian after plugging back from Pennsylvania limey-chert at 10,596 feet. Pipe was cemented at 6101 feet. The company's Carter 1, projected Ordovician test for the Deep

UP THE LONG HARD ROAD TOGETHER



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herd which has been creating considerable interest among operators. A drill-stem test was made at 8082-92 feet inside the Wilcox but recovered only salt water. The Wilcox was topped at around 7995 feet. This wildcat is 3 miles southwest of Shepherd in Uriah Gibson survey.

Wharton County: W. Stewart Boyle is preparing to rework Appling 1, wildcat 1 mile west of Louise. The well flowed oil and salt water in perforations at 4088-90 feet and was shut in several weeks ago. Total depth is 6007 feet with 5½-inch casing set to 4135 feet.

Harris County: The Texas Company is making a first flow test in Stevenson 54, on the east flank of Humble field and adjacent to deep production recently opened by the company in the Yegua and Cook Mountain formations. Operators set 7-inch casing to 7475 feet after drilling to 7478 feet. The well is a south offset to Stevenson 52, 5320-foot sand producer in Yegua.

Wildcats: Drilling of deep wildcats is showing slight signs of revival in the coastal area. Most of these new locations are in Chambers and Jefferson counties where discoveries have been increasing within the past year. Phillips Petroleum Company is spudding a deep test on west side of Chocolate Bayou field, Brazoria County. It is Plummer 1 and is spotted on a 160-acre tract in H. & W. survey, and contracted to be drilled 11,000 feet or deeper.

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South Louisiana

Branch Area in Acadia Parish Gets First Producer

Union Sulphur Company is preparing to make its first tests in Andrus 1, a wildcat in the Branch area of Acadia Parish that is opening its first oil production in the area. The well, located in section 50-8s-2e, was perforated at 9927-29 feet and on a 2-hour drill stem test recovery was 2 jets of oil. While testing, the well built up 3500 pounds working pressure. Operators squeezed these perforations for a second test. The well is testing in a sidetracked hole, the first having been drilled to 10,380 feet. In the first hole a drill stem test was made at 9865-68 feet which showed some 32.2 gravity oil.

Extension: Continental Oil Company has completed a northward extension to the Richie dome in Acadia Parish. The company's Acadia Parish School Board 2 was perforated at 8608-33 feet and flowed 114 barrels of pipe line oil daily through 33⁄64-inch choke with 1350 pound pressure on tubing, casing sealed. Plugged back depth is 8635 feet with 5½-inch pipe set to 8642 feet. This is the company's second well on the north side, the first having opened deep and prolific production.

Also in Acadia Parish but in the Egan area, Sun Oil Company is still fishing electric log line in Trimble, section 31-9s-1w, northeast of the discovery. Total depth is 10,643 feet. The well tried to blow out at this depth, but was finally controlled.

Evangeline Parish: Pine Prairie continues as one of the most active fields on the coast with Pan American Production Company completing Crowell Land and Mineral 3 for 21 barrels of oil hourly from perforations at 10,514-30 feet and 10,440-70 feet in the Wilcox. This well extends the deep Wilcox pay considerable distance on the west flank of the field. Total depth is 10,693 feet with 7-inch pipe cemented at 10,590 feet.

Discovery: Sugarfield Oil Company has made official completion on Iberville Mortgage & Loan 1, wildcat discovery of a new field on the Rosedale prospect in Iberville Parish. The well was perforated with 12 shots at 10,009-12 feet and flowed 198 barrels of 33.5 gravity oil daily through 7/64-inch choke.

North Louisiana

Activity Increases in Nine Louisiana Parishes

Fifteen new locations were made in nine North Louisiana parishes this week indicating an increase in drilling activity over the area which has suffered a slump for the past year.

Two of the locations were for wildcats and several were for field edge wells. The wildcats are: Ouachita Parish, Westgate Greenland Oil Company's S. Werner Sawmill No. 2, 708 feet north and 1872 feet east of the southwest corner of section 9-17n-2e; Natchitoches Parish, J. M. Breedlove's Adrian Land No. 1, 660 feet east and 660 feet north of the southwest corner of section 2-11n-8w.

Davis and Hart, East Texas oper-

ators, have staked four new locations in the Pine Island field, in addition to six completed or nearing completion in a program of twenty drilling operations in the area.

In the Holly Ridge new discovery area of Tensas Parish Union Producing Company, having set casing at the Jordan No. 1 NE NE 19-11n-10e at 8,428 in basal Tuscaloosa, was preparing to perforate. Carter Oil Company's Shelly 2, SE NW 19-11n-10e, second well down to the producing level, was having trouble with cement after setting casing to 8,452. The massive sand was topped at 8402. Location has been made for the seventh Tuscaloosa test since the discovery. This will be Stanolind-Carter Oil Company's Ada Smith Clover Unit 1, Section 19-11n-10e.

Carter Oil Company's deep test in Bossier Parish, Bolinger No. 1, SE NW 20-22n-11w, was drilling below 9369 on a 10,000-foot project.

Ohio Oil Company is perforating for a possible 3-mile extension of the Cotton Valley gas-distillate pay at the W. T. Gleason No. 1, NW NW 31-22n-9w, Webster Parish. The Gleason 1 was drilled to 8649 feet with the Bodcaw topped at 8442 feet. Perforations are being made from 8452 to 8482 feet with 300 shots.

Arkansas

Arkansas Shows Three Completions This Week

Three completions were recorded this week in Arkansas with one new well in the Mt. Holly field, of Union County, one in the Atlanta field of Columbia County, and the third in the Smart field of Columbia County.

The week's activities also were featured by the start of operations on at least four new wildcat operations, and one wildcat in Union County had started testing operations.

Several additional wells had moved into the final stages with testing in progress or about ready to start at the close of the week.

Interest is reported still running high in the Chicot County area where last week H. L. Hunt decided to abandon his well after obtaining salt water in the lime. The fact that Hunt is starting a new wildcat to the north in Desha County probably figures in this continued interest along both sides of the Mississippi river in Arkansas and Mississippi.

Smackover Operators to Try for Price Increase

Seeking an adjustment in the price of Smackover crude from the present figure of 83 cents to $1.20 a barrel, operators in the once-great Arkansas producing area organized themselves at a meeting in El Dorado recently to present a petition to the petroleum branch of the Office of Price Administration in Washington.

Thirty-three Smackover operators attended the meeting, signed the petition and formed the South Arkansas Stripper Well Association for an organized fight to get the price increase. It was indicated at the meeting that 100 percent response will be obtained in signatures on the petition which will be presented in Washington at the earliest possible date.

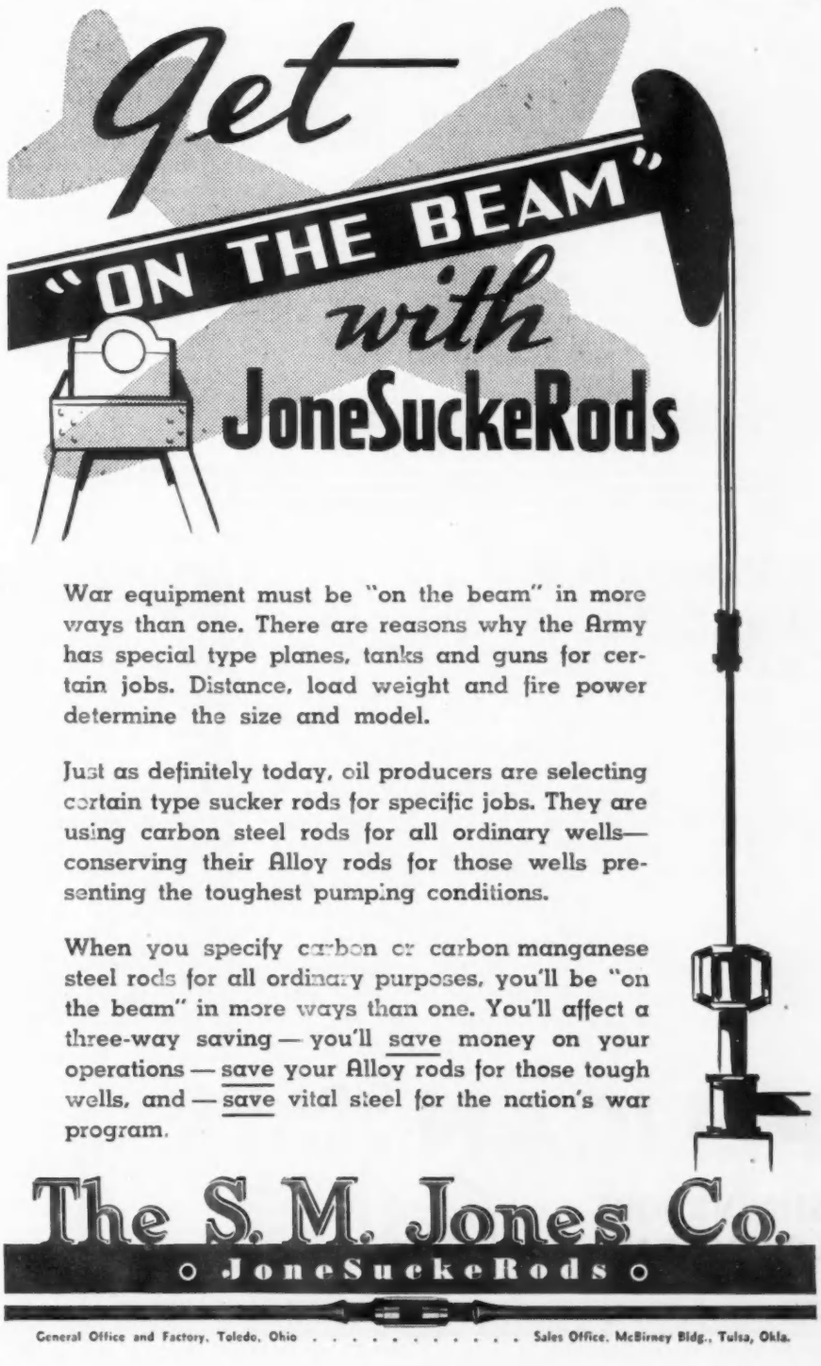
Michigan

Goodwell Field Extended by Deepening Old Gas Well

Pure Oil Company's Goodrich A-1, E½ SE SW 5-14n-11w, Goodwell field, Newaygo County, an old shallow gas well deepened, flowed 447 barrels during the first 12 hours, natural, from the Traverse lime at 2807-30 feet, to extend the pool a half mile northwest. The extension gave new importance to the area which already had a record of nine Traverse producers and no failures.

Arenac County: Prospects for Moffatt Township, four miles north of the North Adams Dundee lime pool, were discouraged with a northwest diagonal offset failure to the potential discovery. Sohio's State A-1, N½ SE SE, 29-20n-3e, logged the Dundee at 2922 feet and cored to 3091 feet logging salt water. This well was 10 feet lower structurally than the discovery, which although drilled in six weeks ago still has not been completed as a commercial producer. The discovery, Rayburn's State 1, N½ NW NW, Section 33, logged the Dundee at 2915 feet and pay at 2974-79 feet, flowing from 25 to 56 barrels a day, natural. Deepened to 2982 feet, a water zone was logged and attempts to plug back so far have been unsuccessful.

Antrim County: Ohio Oil Company abandoned Chamberlain 1, S½ SW NE, 14-31n-8w, at 6150 feet as a failure. It logged the Trenton at 5754 feet and the St. Peter at 6[illegible]3 feet.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Rocky Mountain Area

New Deep Pay Zone for Little Buffalo Basin Area

Saturated cores from the Tensleep sand between 4785-4827 feet comparing favorably with Elk Basin recoveries, were taken from Fred Goodstein's Government 1, NE NE NW 13-47n-100w, Little Buffalo Basin, Wyoming, indicating a new deep pay zone discovery. The well is making a drill-stem test. The Little Buffalo Basin structure is proved for gas production in the Frontier sands. Goodstein controls several sections of land, not unitized at Little Buffalo, while Stanolind Oil and Gas Company, unit operator, on acreage jointly held with The Ohio Oil Company, is drilling a test on unitized acreage embracing 15,000 acres. The unit area is from three to four times that of the proved gas acreage in the Frontier, and was thus designated on the experience at Elk Basin where the Tensleep productive limits are proving some four times that of the Frontier sands.

Gebo Test: Continental Oil Company's Unit 1, SW NW SE 23-44n-99w, Gebo Dome wildcat, which is estimated for upwards of 5000 barrels daily production in the Embar based on drill-stem tests, had deepened into Tensleep saturation. The well topped the Tensleep at 5057 feet, drilled hard-tight formation to 5127 feet where the formation softened some and saturation was encountered to 5167 feet. The well is stopping for a drill-stem test.

Clarks Lake: Amerada Petroleum Corporation's test of the Clarks Lake area, six miles south of the Fort Collins field, Colorado, was a disappointment in drill-stem tests of the Muddy sand. Wildcat, Hartshorn 1, SE NE SW 15-9n-68w, cored saturation in the Muddy sand from 5897-5902 feet. Drill-stem tests showed only three stands of mud. The test is drilling deeper.

Wildcat May Mean New Hunton Limestone Field

Discovery of oil on a farm one mile south of Bellwood, Nebraska, has heightened speculation over the existence of another Nebraska oil field, considered a good possibility since geological surveys a few years ago indicated promise in the Bellwood vicinity.

Drillers struck oil on the Pete Nicholas farm when they broke through a crust of rock at 1503 feet and went into the Hunton limestone. Immediately oil and water started rising in the hole.

Discovery wells at Falls City, Nebraska, the only proved Nebraska field so far, are in the Hunton limestone.

Drilling has been under way in the Bellwood vicinity for more than a year under the direction of C. M. Turner of Wichita, Kansas.

J. C. Nicolas, who with Robert Wilson and Turner organized the syndicate that now holds leases on 11,000 acres, said of the oil strike: "I think we have a commercially producing well. We did not wish to be too optimistic but there is oil that we bailed out of the well in the slush pool."

It Played Hob With Us!

Nothing fit. If the size was right the threads were wrong. If the length was satisfactory the diameter was off. Approximate was a precision term. Tolerance was latitude — and plenty of it. Our shops were doing a land-office business in parts, and no wonder. Then the American Petroleum Institute came along with its standardization program. And did it play hob with us! Or did it? As a matter of fact men who had learned to TRY PELCO FIRST because we made things fit kept coming. Maybe we get it off the shelf now where we once got it out of the shop, but the blamed thing still fits. Long live the A. P. I. Too bad the New Deal doesn't take lessons.

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California

Tejon Ranch Completion Means New California Field

Interest in all other California wildcatting this week is eclipsed by the opening of a new oil field on the 190,000-acre Tejon Ranch, at the south end of San Joaquin Valley, in Kern County. The discovery well, Richfield Oil Corporation's Tejon 5, NW NW SE 35-11-19, on an initial test pumped 72 barrels of 18-gravity oil in the first 9 hours.

The find is a shallow field, the discovery well being bottomed at 2372 feet. Of a zone from 2150-2370 feet, approximately 100 feet is well-saturated oil sand in the Chanac member of the Pleiocene.

One reason for the unusual interest in the discovery is that it is a successful outcome for a long, costly and discouraging series of exploration ventures. Dozens of wildcats were drilled in various parts of the great ranch, but in none until Tejon 5, the 37th try was completed, was commercial production developed.

Everything points to early and rapid development of the new field. Drilling being exceptionally easy, hole can be made, cased and ready for production within a week or 10 days time. The lightest of rigs can do the job. The incentive to take advantage of such a situation would appear to be very great because of the great demand for this type of crude for war needs; and the lessee, a refiner on its own account with huge new input requirements, just now can use all the production it can develop.

Richfield holdings in the area blanket the adjacent country for miles around, except for a few minor parcels. Its leases aggregate approximately 60,000 acres. Reserve Oil & Gas Company, holders of varying interests ranging from 1 to 83-1/3 on the whole spread, obtained as original lessees of the property, are beneficiaries of next importance. Approximately 1000 acres of smaller parcels are individual holdings of less than a half dozen interests.

Fresno County: A further northwesterly extension of the new Miocene pool in the Raisin City area recently opened by Seaboard Oil Company is in prospect. Universal Consolidated Oil Company's outpost, Taylor 1, 14-15-17, logged 15 feet of the pay and is standing cemented at 6312 feet. The Eocene sands are much coarser than the Miocene produced elsewhere in Raisin City field. The Miocene sands are of extremely fine texture and frequently can be controlled only with a wire-wrapped liner.

Kern County: With their average depth more than 11,500 feet, four tests of deep production possibilities in areas tributary to Rio Bravo and Greeley production are all being watched with interest. Superior Oil Company's KCL 12, 3-30-26, McClung area, bottomed at 13,131 feet, has a production test under way after setting casing at 11,275 feet. Standard's Wegis Community 1, 21-19-26, total depth 11,600 feet, had showings that justified casing, set at 11,470 feet; and is ready for test. General Petroleum Corporation's test of a faulted Greeley area, Mitchell 3, 1-29-25, is setting pipe at 11,485 feet. Union Oil Company's Kernco 8-81, most outright wildcat of the lot, is coring at 9960 feet, credited by unofficial field reports with good showings.

United States Well Completions

ARIZONA WILDCAT

Santa Cruz County—Failure: R. L. Jones et al's Larimore 1, c nw se 9-20s-16e, abnd 3464 ft.

ARKANSAS

Columbia County: Haynesville extension area, Navarro Oil Co.'s Waller 1, installing pumping unit.

Columbia County—Macedonia: Grady Vaughan's Smith-Franks 1, ne 18-18s-21w, flow 682 bbls, 45.5-gr, ¾-in, perf 8384-86 ft, td 8989 ft, to be tested for dual completion.

Columbia County—Smart: R. H. Crow's W. W. Drake, dry, abnd.

Lochner and Hill's Smart 1, nw ne 14-15s-20w, pump, Tokio, td 2500 ft.

G. H. Vaughan's G. C. Buck 2, dry, abnd.

Miller County: Carter Oil Co.'s W. B. Sturgis E-3, flow 68 bbls 38.5-gr in 5 hrs.

Union County—New London: Stewart Oil Co.'s Mark King 1, dry.

ARKANSAS WILDCATS

Calhoun County—Failure: Lion Oil Refining Co.'s Anthony 1, dry, abnd 3097 ft.

Chicot County—Failure: H. L. Hunt's L. Myers 1, ne 3-19s-1w, salt water in Smackover, abnd 6400 ft.

Columbia County—Failure: Northern Ordnance Co.'s Waggoner 1, c nw ne 10-19s-23w, Cotton Valley, test dry at 7185 ft, abnd 10,600 ft.

CALIFORNIA

Fresno County—Coalinga: (Old well deepened) Shell's 56-34, nw nw nw 34-19-15, pump 198 bbls, perf 2155-2105, 2085-2045, 2025-1950, 1895-1778 ft, black shale 1765 ft, otd 1768 ft, deepened to 2275 ft.

Seaboard's STU 31-14, nw ne nw 14-15-17, flow 72 bbls 28.9-gr, 36/64-in, 450/1036 lbs perf 6309-6313, 6279-6305 ft, Cretaceous 6400 ft, td 6410 ft.

Kern County—Belridge, South: Belridge Oil Co.'s 74A-34, sw se ne 34-28-21, pump 35 bbls 13.6-gr oil, 17 water, perf 979-1300 ft, td 1500 ft, pb 1300 ft.

Belridge Oil Co.'s 75A-34, nw ne se 34-28-21, pump 35 bbls 14.7-gr oil, 16 water, 426 ft, perf 1100 ft, td 1100 ft.

Belridge Oil Co.'s 76-34, sw ne se 34-28-21, pump 50 bbls 13.3-gr oil, 21 water, 448 ft perf 1102 ft, td 1102 ft.

General Petroleum Corp.'s 15-2, nw ne nw 2-29-21, pump 75 bbls 13.9-gr oil, 4 water, 255 ft perf 820 ft, td 950 ft, pb 820 ft.

Kern County—Cymric: Honolulu Oil Corp.'s Fitzgerald 51-26, nw nw ne 26-29-21, pump est 40 bbls, 28 ft perf 1263 ft, td 1499 ft, pb 1267 ft.

Victory Oil Co.'s 73, nw se se 26-29-21, pump est 50 bbls, perf 1065-1140, 1210-1243 ft, td 1244 ft.

Kern County—Edison: J. Paul Getty's Portals 3, ne se sw 5-30-29, flow 65 bbls 18-gr 35/64-in, 325/525 lbs, 40 ft perf 4019 ft, td 4021 ft.

Kern County—Kern Front: Standard's 47, ne sw ne 15-28-27, pump 63 bbls 12.2-gr oil, 10 water, 118 ft perf 2297 ft, td 2300 ft.

Kern County—Midway-Sunset: Chanslor Canfield Midway Oil Co.'s 12-7, ne ne nw 7-32-23, brown shale, abnd 3790 ft.

Kern County—Mount Poso: Ring Oil Co.'s Bowles 29-30, ne sw sw 29-26-28, pump 82 bbls, 25 ft perf 1735 ft, Vedder 1720 ft, td 1739 ft.

Kern County—Rio Bravo: Superior's Osborne 3-4, sw ne sw 28-28-25, flow 1816 bbls 41.3-gr, 2,106,000 gas, 45/64-in, 525/0 lbs, perf 11,410-11,350 ft, td 11,673 ft.

Los Angeles County—Del Valle: Bankline Oil Co.'s Sterry 101, se ne ne 18-4-17, pump 53 bbls 23.4-gr, perf 4498-4460 ft, td 5073 ft, pb 4500 ft.

Los Angeles County—Wilmington: General Petroleum Corp.'s Terminal 16, 4609 ft s 1387 ft w c/ls Ford and Anaheim, pump 192 bbls 14.5-gr, 81 ft perf 2534 ft, td 2535 ft.

Long Beach Oil Development Co.'s "Y" 14, 55 ft nely along n/l Seaside Blvd fr w/l Santa Clara Ave, thence 348 ft sely at r/a, pump 217 bbls 19.1-gr, 97,000 gas, td 2923 ft.

Richfield's Pacific Dock 33, 2583 ft s on e/l lease fr nec thence 920 ft wly at r/a, flow 100 bbls 14.7-gr perf 2294-2394, 2433-2509 ft, td 2510 ft.

Orange County—Huntington Beach: Signal Oil & Gas Co.'s Signal Bolsa 41-B, 1411 ft n 1760 ft w swc Plot "C", Standard Bolsa lease, pump 213 bbls 23.3-gr, 188 ft perf 2898 ft, td 2898 ft.

Standard's Huntington J-3, ne sw se 36-5-11, pump 83 bbls 16.7-gr oil, 10 water, 55,000 gas, td 3790 ft.

Standard's P. E. 27, 1850 ft wly 125 ft sly c/l 23rd and Ocean, flow 80 bbls 14.9-gr, 100/380 lbs, td 3125 ft.

Ventura County—Ventura Ave: Shell's Edison 40, 410 ft s 1920 ft w c/l No. 11, flow 77 bbls oil, 473 water, 43,000 gas, 128/64-in, 50/1250 lbs perf 8300-8255 ft, td 8902 ft.

Shell's Taylor 163, 1080 ft n 5600 ft w c/l No. 11, flow 950 bbls oil, 140 water, 717,000 gas, 125/750 lbs perf 9677-9158, 9114-8844, 8784-8502, 8465-8147 ft, td 9680 ft.

CALIFORNIA WILDCATS

Fresno County—Discovery: General Petroleum Corp.'s Noble F-4-5, sw sw sw 5-17-18, flow 255 bbls 59.9-gr, 3,000,000 gas, 17/64-in, 2350/2500 lbs perf 7985-7968, 7958-7923, 7908-7904 ft, Kreyenhagen 7537 ft, first oil sand 7900 ft, Domengine 7935 ft, Cretaceous 7966 ft, td 8092 ft.

Fresno County—Discovery: General Petroleum Corp.'s Burrel 68-35, se sw se 35-16-8, Huron area, flow 342 bbls 31.7-gr, 151,000 gas, 12/64-in, 580/800 lbs perf 6484-6496 ft, top oil sand 6280 ft, considered extension Helm field, td 6600 ft, pb 6507 ft.

Kern County—Discovery: Da Me Oil Co.'s 3, sw nw sw 27-26-28, Mount Poso area, pump e t 25 bbls oil, 75 water, perf 1342-1348, 1374-1388 ft, Vedder 1275 ft, oil sand 1370-1390 ft, probably extension Mount Poso field, td 1398 ft.

Kern County—Failures: Atlas Production's Anderson 1, se sw se 8-29-21, Belridge South area, brown shale, abnd 2125 ft.

Tide Water's KCL 54-6- sw sw ne 6-29-27, area north of Fruitvale about one mile, gray sand, abnd 4814 ft.

E. A. Bender and Burton Benwell's S.P.L. 1, nw nw nw 25-28-28, southwest Round Mountain area, gray sand, abnd 2871 ft.

Shell's Utting 3-7, nw ne sw 7-27-19, Shale Point area, abnd 461 ft.

Chanslor Canfield Midway Oil Co.'s Antelope Fee 12-2, ne ne ne 12-28-19, Williams area, gray siltstone, abnd 2320 ft.

Los Angeles County—Failure: Texas Co.'s R. R. Dominguez 57-1, ne sw se 1-4-18, Temescal area, form test 4210-4247 ft, rec 400 ft mud, abnd 7308 ft.

San Joaquin County—Failure: Standard's North Roberts Island 1, ne nw sw Roberts Island area, gas test, gray sand, abnd 5262 ft.

Santa Barbara County—Failure: C. M. Morse's Rhode Island 1, 500 ft s 450 ft w c/l State Highway 101 and 450 w of ely bndry Rhode Island Estate Ranch 2-4-30, wet Vaqueros gray sand 497 ft, abnd 537 ft.

Ventura County—Discovery: El Rika Oil Co.'s 6, 100 ft e of No. 5 23-4-18, Eureka Canyon area, pump 5 bbls oil, 3 water, 2-in tbg 373 ft, td 386 ft.

COLORADO

Moffatt County—East Hiawatha: Mountain Fuel Supply Co.'s Kuykendall 4, sw nw se 22-12n-100w, abnd 3584 ft.

COLORADO WILDCATS

Archuleta County—Failure: Phillips' Crowley 1, sw sw sw 12-32n-1e, abnd 1625 ft.

INDIANA

Spencer County: Dameron-Gary & Savage's Alvin & Wm. S. Frank 1, ne sw sw 36-7s-7w, abnd 935 ft.

INDIANA WILDCATS

Daviess County—Failure: Southwestern Dev. Co.'s R. B. Lucas 1, se ne ne 25-2n-6w, abnd 881 ft.

Pike County—Failure: J. P. Graham's Jane Adams 1, c ne nw 15-1n-7w, abnd 861 ft.

KANSAS

Barber County—W. Deerhead: Champlin's Mills 1, se sw ne 22-32s-15w, Viola 5011 ft, pb 4770 ft, fill 1000 ft wtr 1 hr, abnd 5100 ft.

Barton County—Kraft-Prusa: Gulf's Redetzke 3, c nw ne 19-16s-11w, Arbuckle 3554 ft, 2000 gals acid, pump 202 bbls oil, 156 bbls wtr, 3364 ft.

Barton County—Feltes: Gulf's Minnie 1, c n½ ne ne 23-16s-12w, Arbuckle 3333 ft, pump 139 bbls oil 11 hrs, 3350 ft.

Barton County—W. Ainsworth: Black-Marshall's Ainsworth 4, nw se sw 33-16s-13w, Arbuckle 3401 ft, 1000 gals acid, pump 73½ bbls oil 58 bbls wtr, 8 hrs, 3406 ft.

Barton County—Kraft-Prusa: Shell's J. Stueder 2, ne sw sw 14-17s-11w, Arbuckle 3308 ft, 1000 gals acid, pump 438 bbls oil, 3317 ft.

Barton County—Bloomer: Transwestern's Peterman 2, c n½ nw ne 24-17s-11w, Arbuckle 3264½ ft, 3000 gals acid, pump 16 bbls oil, per hr for 4 hrs, 3282 ft.

Barton County: Transwestern et al's Peterman 3, c n½ se ne 24-17s-11w, Arbuckle 3325 ft, abnd 3351 ft.

Butler County: Eldorado: Adair-Morton and Phil Han's Robinson 4, sw se ne 18-25s-5e, Viola 2882 ft, abnd 2907 ft.

Cowley County—Un-named: Northern Ordnance's M. Polson 1, sw se se 19-33s-8e, Lansing-Kansas City 2351-66 ft, 2500 gals acid,

Wells Completed in United States in Week Ended November 6, 1943

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama													2	3
Arizona									1	1	1		5	2
Arkansas	4			3	7				3	3	10	9	181	197
California	20			1	21	1	3		9	12	34	36	1,302	660
Colorado				1	1				1	1	2		24	14
Florida													1	
Georgia													1	2
Illinois												45	1,516	1,867
Indiana				1	1				2	2	3	3	230	335
Kansas	20			15	35		2		13	15	50	38	1,485	1,403
Kentucky									6	6	6	15	348	139
Louisiana	7			3	10				1	1	11	13	489	820
North Louisiana												4	191	
South Louisiana	7			3	10				1	1	11	9	298	
Michigan	7			5	12	2			5	5	19	10	513	596
Mississippi													35	95
Missouri													21	33
Montana	14	1		4	19						19		202	181
Nebraska														28
New Mexico	1			1	2	1			1	1	4	4	231	345
New York	18		8		26						26	27	1,019	1,056
Ohio	3	5			8						8	6	689	960
Oklahoma	12	3	2	7	24	4	4		4	8	36	39	1,232	1,233
Pennsylvania	33		16		49						49	54	2,360	3,430
Tennessee													6	8
Texas	53	6	1	18	78	7	5		24	29	114	88	3,612	4,690
E. T. Bor. Co.'s													16	
E. Tex. Field													5	
Rest of E. Texas	2			2	4		1		3	4	8	4	203	
North Texas	13		1	8	22	1	2		8	10	33	27	902	
W. Cent. Texas	6				6	3			2	2	11	5	328	
West Texas	21			2	23	3			2	2	28	14	802	
Texas Panhandle	3	2		1	6						6	4	169	
G. Coast, Upper	2	1		2	5				4	4	9	6	276	
G. Coast, Lower	5	2		1	8		2		3	5	13	15	543	
Southwest Texas	1	1		2	4				2	2	6	6	320	
S. Central Texas												1	48	
West Virginia	1	9		4	14						14	16	584	640
Wyoming													113	88
Total U.S.	193	24	27	63	307	15	14		70	84	406	403	16,201	18,825

* Includes distillate wells. † Includes salt water disposal wells.

500,000 gas, pump 25 bbls oil, td 2742 ft, pb 2655 ft.

Greenwood County—Virgil: Aikman & Braden's Coffman 1, se se ne 10-24s-12e, Miss 1776 ft, pay 1811 ft, 1500 gals acid, pump 15 bbls oil, 10 bbls water, 1811 ft.

Leavenworth County—McLouth: J. B. Schaffnes and Jeannine Anderson's No. 1, c ne ne 7-10s-21e, Miss 1450 ft, abnd 1454 ft.

Leavenworth County: Wilson et al's P. W. Farrar 1, c w½ nw ne 8-10s-21e, Miss 1325 ft, abnd 1376 ft.

McPherson County—Crowthers: Winkler & Koch's A. M. Anderson 1, c s½ se nw 23-17s-1w, Miss 2720 ft, 5000 gals acid, pump 76 bbls, 2745 ft.

McPherson County—SW Lindsborg: Texas Co.'s Nelson 1, c w½ nw ne 1-18s-4w, Viola 3460 ft, pb 3406 ft, 3500 gals acid, abnd 3460 ft.

McPherson County—Un-named: Adair-Morton's Allison 1, sw sw sw 11-18s-1w, Miss 2797 ft, abnd 2806 ft.

Phillips County—N. Dayton: Phillips' Argan 2, c nw se 12-2s-19w, Lansing 3305 ft, so 3368-71 ft, swab 142 bbls oil 8 hours, pump 369 bbls 3403 ft.

Phillips County—Hansen: Skelly's B. O. Graham 1, sw nw nw 25-5s-20w, Arbuckle 3491 ft, best pay 3503½ ft, 4000 gals acid, pump 475 bbls, 3524 ft.

Pratt County—North Stark: Lauck & Moncrief's Claycomb 2, ne ne ne 12-26s-12w, Arbuckle 4311 ft, hfw, abnd 4322 feet.

Pratt County—Iuka: Skelly's Heimke "C", 1 c nw ne, 6-27s-12w, Lansing 3711 ft, 1000 gals acid, swab 6 bbls water per hr for 10 hrs, td 4318 ft, pb and abnd 3946 ft.

Reno County—Zenith: Cities' Service's Freeman 4, c se se 6-24s-10w, Misener 3727 ft, 500 gals acid, flow 33½ bbls oil in 1 hr, ¼-in, 3736 ft.

Reno County: Auto Ordnance's Porter 1, nw ne 150 ft n of cen 7-24s-10w, Viola 3751 ft, 375 gals acid, flow 155 bbls oil in 3 hours, 3759 ft.

Cities Service's Terry 1, sw ne ne 4-26s-4w, Viola 4090½ ft, 500 gals acid, pump 282 bbls oil, 132 bbls wtr, 4095 ft.

Rice County—Orth: N. Bartlett & Wakefields's Schultz 2, c w½ nw nw 22-18s-10w, Arbuckle 3252 ft, pump 50 bbls, 3261 ft.

Rice County—Chase: Bishop Oil Co.'s Cramm 5, sw nw sw 15-19s-9w, Arbuckle 3204 ft, pay 3218-22 ft, 2000 gals acid, pump 180 bbls oil, 3222 ft.

Rice County: Shell et al's Sherman "B" 5, sw ne ne 16-19s-9w, Erosional Arbuckle 3212 ft, pump 7 bbls oil, 323 bbls wtr, 3230 ft.

Rooks County—Barry: Continental's J. Gick 2, sw sw sw 1-9s-19w, Arbuckle 3449 ft, swab 200 bbls oil in 3 hrs, 3467 ft.

Russell County—Greenvale: Cities Service's Major "B" 5, c s½ nw se 5-15s-12w, Arbuckle 3289 ft, abnd 3301 ft.

Russell County—Forrest Hill: Skelly's Luerman 1, c n½ ne se 29-15s-12w, Lansing 3040 ft, Arbuckle 3341 ft, 500 gals acid, fill 1400 ft fluid, abnd 3359 ft.

Russell County: Helmerich & Payne's F. Grizzell 1, nw sw nw 33-15s-12w, Arbuckle 3296 ft, pump 231 bbls, 3304½ ft.

Stafford County—Byron: Stanolind's Fred Hewitt "B" 1, se sw se 4-21s-12w, Arbuckle 3457-62 ft, 4500 gals acid, swab ½ bbl oil, 1 bbl water per hr, abnd 3503 ft.

Stafford County—Gates: Magnolia's R. C. Gates 3, c ne nw 35-21s-13w, Arbuckle 3670 ft, 500 gals acid, pump 63 bbls oil, 3680 ft.

Stafford County—Druch: Davis-Childs' Hitz 1, c ne ne 12-22s-13w, Arbuckle 3717 ft, abnd 3725 ft.

Stafford County—Ahnert: Auto Ordnance B & B Drlg.'s Hammeke 1, c nw sw 25-22s-13w, Arbuckle 3775 ft, sso 3775-85 ft, abnd 3800 ft.

Stafford County—Leesburgh: B & R Drlg.'s King 1, c ne se 11-25s-13w, Arbuckle 4254-74 ft, abnd 4274 ft.

Sumner County—N. Vernon: Smith & Horton's Mary Duncan 1, c ne sw 15-35s-2e, Miss 3407 ft, shot 30 qts, pump 20 bbls oil, 40 bbls water, 3439 ft.

KANSAS WILDCATS

Barton County—Failure: Continental and Darby's Drehle 1, nwc sw 36-19s-14w, 3608 ft, abnd.

Dickinson County—Failure: Jones & Hill's Lauxman 1, se ne ne 31-16s-1e, abnd 2688 ft.

Ellis County—Failure: Phil Han et al's Falconberry 1, sec nw 3-11s-19w, abnd 3615 ft.

Jefferson County—Failures: Bridgeport Oil Co.'s Triplett 1, nw ne sw 5-8s-20w, abnd 3534 ft.

Bridgeport Oil Co.'s Renner "B" 1, nwc ne 31-9s-20w, abnd 3979 ft.

Marion County—Failure: Frank Dieter et al's Seildert 1, nec, se 16-20s-5e, abnd 2157 ft.

McPherson County—Discovery: Adair & Norton's Paden 1, swc se 10-18s-1w, pump 400 bbl oil in 14 hrs, 2770 ft.

McPherson County—Failures: Aladdin Pet. Co.'s Methodist Church 1, nwc se 14-18s-1w, abnd 2152 ft.

John Allison et al's Fee 1, nwc ne 20-18s-3w, abnd 3671 ft.

Rice County—Failure: Dansiger Oil & Refg. Co.'s Worth 1, nwc 34-18s-8w, abnd 3276 ft.

Russell County—Failure: Gough Davis' Funk 1, nw ne nw 26-12s-1w, abnd 3329 ft.

Russell County—Discovery: N. Appleman and Nat'l Refg.'s Kaufman 1, nwc sw 33-15s-12w, 3077-85 ft, gso 3257-60 ft, acid 500 gals, 1 bbl oil per hr, perf 3065-73 ft, 3500 gals acid, flow 60 bbls in 1 hr, td 3276 ft.

Sedgwick County—Failure: Westgate-Greenland's Seiwert 1, sw nw nw 4-27s-3w, abnd 4325 ft.

Stafford County—Failure: Marlyn Oil's Jenkins 1, c w½ sw nw 2-25s-12w, abnd 4175 ft.

Trego County—Failure: Sinclair Prairie's O'Toole 1, nw ne nw 26-14s-25w, abnd 4572 ft.

KENTUCKY WILDCATS

Gallatin County—Failure: Gulf's Carnegie Tech 2, 24-V-74, abnd 944 ft.

Henderson County—Failures: Carter Oil Co.'s Roscoe Sellers 1, 6-O-23, abnd 2726 ft.

Kingwood's White 2, 11-P-24, abnd 495 ft.

H. P. Maier's Bauldauf 1, 6-Q-24, abnd 2516 ft.

McLean County—Failure: Kingwood's A. Wittmer 1, 6-K-28, abnd 2558 ft.

Ohio County—Failure: Sohio & Hunes T. E. Bidwell 1, 12-L-29, abnd 2605 ft.

SOUTH LOUISIANA

Acadia Parish—Richie: Continental's Acadia Parish School Board 2, 4538 ft n, 658 ft w of se cor sec 16-7s-1w, 5½-in 8642 ft, perf 8608-33 ft, flow 114 bbls, 3/32-in, td 9396 ft.

Calcasieu Parish—Vinton: Union Oil Company's Gray 14, 330 ft s, 991 ft w of ne cor sec 33-10s-12w, 5½-in 5850 ft, perf 5780-5838 ft, flow 129 bbls, 5/32-in, td 5850 ft.

Cameron Parish—Black Bayou: 330 ft n&e of sw cor ne nw sec 13-12s-12w, abnd 10,808 ft.

Evangeline Parish—Pine Prairie: Pan American's Crowell Land & Mineral 3, 2375 ft e, 330 ft s of nw cor sec 35-3s-1w, 7-in, 10,693 ft, perf 10,514-30 ft, 10,440-70 ft, flow 21 bbls hourly, ¼-in, td 10,693 ft.

Iberia Parish—Jefferson Island: Texas Co.'s Jefferson Island Salt 10, 5435 ft n, 2165 ft w of most s'ly cor sec 58-12s-5e, 7-in 9215 ft, perf 9490-9510 ft, flow 214 bbls, ⅛-in, td 10,395 ft.

LaFourche Parish—Golden Meadow: Texas Co.'s LLE-Golden Meadow 27, 3160 ft w, 660 ft n of se cor sec 69-19s-21e, abnd 11,976 ft.

LaFourche Parish—Leeville: Texas Co.'s LLE-Leeville 91, start ne cor se¼ sec 27, go 4384 ft s to lcn in sec 34-21s-22e, 7-in 10,115 ft, perf 9900-05 ft, 9842-46 ft, flow 279 bbls, ⅛-in, td 10,115 ft.

Plaquemines Parish—Garden Island: Texas Co.'s State-Garden Island 62, s 61 deg 11 mins w 9117 ft fr USCGS Mon "Minn" in sec 10s-23s-32e, 7-in 6030 ft, perf 5896-5940 ft, flow 54 bbls, 5/32-in, td 7162 ft.

St. James Parish—St. James: Humble's Zeringue 1, fr n cor sec 7, go sw'ly alg nwl 3932 ft, th se'ly at ra 660 ft to lcn in sec 7-12s-16e, abnd 11,068 ft.

St. Martin Parish—West Lake Verrett: Shell's State-Jeanerett 1, n 89 deg 32 mins e 2003 ft on nl sec 15 fr nw cor, th s 516 ft in sec 15-14s-12e, 5½-in 5669 ft, perf 4638-48 ft, flow 130 bbls, ⅛-in, td 8998 ft.

FOR SALE

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Trading Post Section, THE OIL WEEKLY
P. O. Box 2608 Houston 1, Texas

SOUTH LOUISIANA WILDCAT

St. Landry Parish—Failure: J. S. Abercromie and Atlatl Royalty's Stelly Unit 1, Sunset area, begin se cor sec 23, go w 5633 ft, th n 3976 ft to lcn in sec 23-7s-5e, abnd 10,440 ft.

MICHIGAN

Allegan County—Trowbridge: C. J. Smith's Wilson 1, nw ne nw, 29-1n-13w, Traverse, pump 15 bbls, td 1336 ft.

Arenac County—Moffatt: Sohio Producing Co.'s State A-1, n½ se se 29-20n-3e, Dundee, dry, td 3091 ft.

Bay County—Kawkawlin: Gulf's Wiseland-Knochel 1, s½ ne sw 35-15n-4e, Dundee, pump & flow 135 bbls, td 2915 ft.

Mecosta County—Fork: Gulf's Ruby-Don 1, s½ nw se 6-16n-7w, Dundee, flow 322 bbls, td 3814 ft.

Newaygo County—Goodwell: Pure's Troeger 2, e½ sw ne 8-14n-11w, Traverse, flow 360 bbls, 6 hrs, td 2758 ft.

Pure's Fetterley 1, e½ ne nw 16-14n-11w, Traverse, pump 30 bbls, td 2763 ft.

Osceola County—Cedar: Ohio Oil Co.'s Boettcher 4, s½ ne ne 33-18n-9w, Dundee, flow 216 bbls, td 3896 ft.

Osceola County—Rose Lake: Sohio Prod. Co.'s Bowker 2, s½ sw sw 32-19n-9w, Traverse, dry, td 3200 ft.

Van Buren County—North Bangor: Harris Oil Co.'s Smith 2, ne se se 8-2s-16w, Traverse, dry, td 1049 ft.

Harris Oil Co.'s Chokas 1, ne sw sw 11-2s-16w, Traverse, dry, td 1040 ft.

Michahoma Oil Co.'s Wright 1, ne nw se 20-2s-16w, Traverse, dry, td 1023 ft.

Van Buren County—Muskrat Lake: Bridger Basin's Munn 1, ne sw nw 11-1s-14w, Traverse, pump 19 bbls, td 1327 ft.

MICHIGAN WELLS DEEPENED

Osceola County—Rose Lake: Sun Oil Co.'s Bowman 2, s½ se ne 6-18n-9w, otd 3252 ft, Dundee 3761 ft, so&w 3800 ft, abnd 3805 ft.

Newaygo County—Goodwell: Pure's Goodrich A-1, e½ se sw 5-14n-11w, otd 1180 ft, Traverse 2807 ft, flow 447 bbls, 12 hrs, td 2830 ft.

MICHIGAN WILDCATS

Allegan County—Failure: Fortney and Cooks' Bolks 1, se ne se 25-4n-15w, Traverse td 1638 ft.

Allegan County—Failure: W. H. Clock's MacVean 1, se sw sw 9-2n-11w, Traverse, td 1795 ft.

Antrim County—Failure: Ohio Oil Co.'s Chamberlain 1, s½ sw ne 14-31n-8w, Dundee 1155 ft, Richfield 1960 ft, Trenton 5754 ft, St. Peter 6093 ft, td 6150 ft.

Ionia County—Failure: H. H. Heinig's Miller 1, ne se se 36-8n-5w, Dundee, td 2959 ft.

Mecosta County—Failure: Maguire's Blair 1, sw sw ne 8-13n-9w, Dundee 3429 ft, td 3650 ft.

Van Buren County—Failure: W. H. Clock's Hudson 1, nw sw sw 17-4s-13w, Traverse, 1160 ft, so 1161 ft, td 1188 ft.

MONTANA

Glacier County—Cut Bank: Glacier Prod. Co.'s Barrington 4, c el sw ne 19-33n-5w, Cut Bank 2983-3044 ft, swab 70 bbls, td 3046 ft.

Glacier Prod. Co.'s McGuinness Unit 5, se nw nw 8-35n-5w, Upper Sunburst so 2888-2902 ft, Sunburst 2932-2991 ft, Cut Bank 3009-3054 ft, abnd 3061 ft.

Hannah-Porter's Tribal 4-189, se nw ne 19-32n-5w, Sunburst so 2763-70 ft, Cut Bank 2780-2824 ft, shot 160 qts, swab 60 bbls, 7-in, td 2832 ft.

A. Kately Agent's Getty 1, c nw sw 15-34n-6w, Cut Bank so 2973-3011 ft, abnd 3018 ft.

Santa Rita Oil & Gas Co.'s Government 7, c nw nw 8-32n-5w, Lower Cut Bank 2945-57 ft, swab 60 bbls, 7-in, td 2965 ft.

Texas Co.'s State 14, c sw se 16-32n-5w, Lower Cut Bank 2802-16 ft, swab 157 bbls 5½-in, td 2844 ft.

Two Medicine Association's Tribal 1, ne sw nw 32-32n-5w, Lower Cut Bank 2955-82 ft swab 115 bbls, td 2982 ft.

Liberty County—Whitlash: Western Natural Gas Co.'s McHoney 2, c se nw 21-37n-4e, 3,000,000 gas, sand 1450-60, 1550-60 ft, td 2209 ft, pb 1600 ft.

Toole County—High Gravity: Cobb-Hardrock Oil Co.'s Gov. 3, nw se sw 18-35n-3w, Ellis-Madison 2428 ft, flow 100 bbls, td 2435 ft.

Toole County—Kevin-Sunburst: B. A. S. Aronow's Government 2, nw sw sw 22-35n-3w, Ellis-Madison 1740 ft, so Sunburst 1502 ft, abnd 1805 ft.

B. A. S. Aronow's Government 4, sw nw sw 22-35n-3w, Ellis-Madison 1733-35 ft, flow 5 bbls, td 1737 ft.

A. Beardsley's Sweeney 3, se sw se 3-34n-2w, Ellis-Madison 1465 ft, 500 gals acid, pump 10 bbls oil, 50 bbls water, td 1474 ft.

Big West Oil Co.'s Dahlquist, sw ne se 21-35n-3w, 1000, 2000 and 3000 gals acid, pump 5 bbls, td 1804 ft.

Deloraine Oil Syndicate's McKee 1, se se se 7-35n-1w, Ellis-Madison 1600 ft, so 1612-17, 500 gals acid, pump 15 bbls fluid, 10% oil, td 1623 ft.

Enfield Oil Co.'s Zachor 10, sw nw ne 20-35n-1w, Ellis-Madison 1586 ft, 500 gals acid, pump 20 bbls, td 1593 ft.

O. A. Nepstad's Haugen 6, se sw ne 11-35n-3w, Ellis-Madison 1586 ft, 500 gals acid, pump 20 bbls, td 1810 ft.

Casper T. Olen's Department 6, ne nw se 11-35n-2w, Ellis-Madison 1529-35 ft, shot 100 qts, pump 6 bbls, td 1639 ft, pb 1569 ft.

R. G. Parrant's McAlpine 1, sw nw se 25-37n-3w, Ellis-Madison 2082-88 ft, abnd 2117 ft.

Pfabe & Engelking's Hurley 5, sw se nw 8-34n-2w, Ellis-Madison 1448 ft, 500 and 500 gals acid, pump 55 bbls oil, 10 bbls water, td 1451 ft.

NEW MEXICO

Eddy County: Carper-Dr. Co.'s State-Koenig 1, c sw nw 36-17s-30e, abnd 3410 ft.

Lea County—Lynn: Texas Co.'s State 5-B, c ne nw 16-23s-36e, elev 3482 ft, flow 593 bbls, 2-in, 3630-3706 ft, td 3740 ft.

NEW MEXICO WELL DEEPENED

Lea County—Maljamar: Maljamar O&G Corp.'s Mitchell 16-B, c sw sw 19-17s-32e, otd 3609 ft, flow 180 bbls, 2-in, td 3934 ft.

NEW MEXICO WILDCAT

Lea County—Failure: Carper Dr. Co.'s Nellis 1, c ne nw 5-18s-33e, junked 595 ft.

OKLAHOMA

Bryan County—Cumberland: Pure's Little 208 No. 2, se sw nw¼ 27-5s-7e, McLish 5422 ft, top sand 5828 ft, flow 1512 bbls, td 5945 ft.

Bryan County: Pure's Stewart 103 No. 2, se se ne¼ 28-5s-7e, Oil Creek 5677 ft, 2nd sand 6324 ft; flow 3864 bbls oil, 3,786,768 gas, td 6383 ft.

Comanche County—Ft. Sill: Texas Co.'s Dilling 1, nw nw sw¼ 8-3n-10w, Roll Sand, abnd 940 ft.

Creek County—S. E. Stroud Area: J. E. Crosbie's Elle 1, sw ne ne, 17-14n-7e, Prue 2863 ft, shot 160 qts, flow 75 bbls, td 2917 ft.

Creek County—N. Bristow: Curtis Oil's Wyatt 1, sw¼ cen sw sw, 11-17n-8e: Red Fork 2554 ft, shot 60 qts, pump 25 bbls, 2554 ft.

Creek County—Glenn Pool: Gulf's Drew 28, nw sw sw, 5-17n-12e, Glenn 1404-1572 ft, input 1576 ft.

Creek County: Sinclair-Prairie's J. F. Berryhill 64, sw ne ne, 16-17n-12e, Glenn 1401-1579 ft, pump 20 bbls oil, 1 bbl wtr, 1580 ft.

Garvin County—Pauls Valley Pool Area: Ohio's Bedal "A" 1, ne se se 26-4n-1w, Penn Production 4008 ft, Calcareous 4021 ft, Penn Detrital 4077 ft, flow 442.8 bbls oil, ¾-in, 750,000 gas, td 4130 ft, pb 4083 ft.

Kay County—Vernon Pool: Dave Morgan's Bebel 1, sw sw sw 21-29n-1e, Miss 3378 ft, pump 141 bbls, 3439 ft.

Okfuskee County—Weleetka: H. Bryant's Douglas 1, cen nw nw, 10-10n-11e, 2nd Gilcrease 2557 ft, 2,000,000 gas, td 2588 ft.

Okfuskee County—Dill: Cities Service's Armstrong "B" 1, se sw sw 23-12n-8e, Pitkin 3731 ft, abnd 3736 ft.

Oklahoma County—Oklahoma City: Clark O & G's M. Page 1, se se se 35-12n-3w, 2nd Tonkawa 4208 ft, abnd 4234 ft.

Oklahoma County—W. Edmond: Magnolia's Ringer 2, c se se 31-14n-4w, Hunton 6885 ft, flow 441 bbls oil, ½-in, td 7017 ft, pb 7003 ft.

Oklahoma County: Sohio's Harper 1, c se ne 31-14n-4w, Hunton 6875 ft, flow 576 bbls, 20/64-in, td 7210 ft.

Okmulgee County—Morris: L. S. Grimm's Eubanks 1A, nw nw nw, 17-13n-14e, abnd 525 ft.

Osage County—Flat Rock: J. B. Hawley's No. 3, sw sw sw 6-20n-12e, Miss 1770 ft, abnd 1785 ft.

Osage County—Madaline: Sunray's No. 1 ne sw nw 16-21n-10e, Bartlesville 1943 ft, shot 80 qts, pump 12 bbls, td 1947 ft.

Osage County—Burbank: Phillips' Osage 17, nw se ne 13-27n-5e, Burbank 2940 ft, repressure well, 2984 ft.

Pittsburg County—S. Canadian: Public Service's Berryman 1, sw ne se 2-6n-15e, Hartshorne 2065 ft, shot 225 qts, 2,500,000 gas, td 2066 ft.

Pottawatomie County—NW Earlsboro Pool: Atlantic's Turner "B" 2, nw se se 1-9n-4e, Hunton 4211 ft, 3500 gals acid, flow 554 bbls oil, 1-inch, td 4375 ft, pb 4300 ft.

Seminole County—Fish: F. P. Lanahan's Fish 3, nw sw ne, 19-7n-8e, 2nd Calvin 1448 ft, shot 20 qts, pump 50 bbls oil, 10 bbls wtr, td 1471 ft.

Seminole County—Jackson: Mid-Continent's Johnson 2, nw sw ne 23-8n-7e, Booch 3149-65 ft, shot 20 qts, pump 30 bbls, td 4600 ft, pb 3232 ft.

Seminole County—NE Wewoka: J. Dropplemman's Walker 1, sw sw sw 8-8n-8e, Wilcox 4442 ft, abnd 4451 ft.

Stephens County—East Loco: J. M. Jackson's Hefner 1, sw sw sw 12-3s-5w, sandy lime 950-1002 ft, abnd 1275 ft.

OKLAHOMA WELLS DEEPENED

Creek County—Tuskegee: Dunn & Miller's Cantrell 2, nw se se, 34-14n-10e, otd 3181 ft, Wilcox 3272 ft, shot 80 qts, pump 60 bbls oil, td 3292 ft, pb 3289 ft.

Okfuskee County—Olympic: Manahan's Bunner 4, se ne ne, 25-10n-8e, otd 1841 ft, Senora sand 1838-68 ft, shot 60 qts, pump 12 bbls oil, td 1872 ft.

Okfuskee County: Manahan's Bunner 5, ne 330 ft n & e lines, 25-10n-8e, otd 1848 ft, Senora sand 1848-73 ft, shot 30 qts, pump 7 bbls oil, td 1879 ft.

Pottawatomie County—Maud: Cities Service's Smith 2, ne 330 s&e lines, 8-8n-5e, otd 4060 ft, Dolomite 4306 ft, pay 4325-31 ft, set 416-ft 6-inch lines at 4305 ft, 1500 gals acid, pump 35 bbls water, abnd 4331 ft.

OKLAHOMA WILDCATS

Coal County—Failure: Continental's Morgan 1, se nw nw 33-2n-9e, abnd 6355 ft.

Comanche County—Discovery: Northern Ordnance's Stephens "D" 1, se nw ne 29-3n-10w, cleaned out to bottom, 10' bbls 31-gr, td 510 ft.

Jefferson County—Failure: Artesia Inv. Co.'s Sitton 1, nw ne nw 13-3s-6w, abnd 1745 ft.

Kiowa County—Failure: C. W. Trickett's Nix 1, ne sw 32-7n-17w, Pontotoc so 1025-32 ft, abnd 1032 ft.

Noble County—Discovery: Barnsdall's Johnson 1, c sw ne 25-22n-1e, 2 WX 4690 ft, 5-in 4601 ft, perf 4394-4414 ft, 500 gals acid 4394-4414 ft, pump and flow 14 bbls daily, td 4429 ft, pb 4414 ft.

Payne County—Failure: J. E. Crosbie's Wilson 1, nw ne ne 28-19n-5e, abnd 3872 ft.

Pittsburg County—Discovery: Public Service's Berryman 1, sw ne se 2-6n-15e, Hartshorne 2065 ft, shot 200 qts 2068-2134 ft, 2½ gas, 2290 ft.

Pottawatomie County—Discovery: Cities Service's Lamirand 1, ne se sw 27-6n-2e, 1000 gals acid 5118-30 ft, 3000 gals acid 5118-30 ft, tbg, pump 51 bbls, td 5304 ft, pb 5180 ft.

EAST TEXAS

Hunt County—Campbell: Stanolind's Whitten 1, 2200 ft ewl 2500 ft snl, Chas. C. Dale sur, elev 608 ft, abnd 4417 ft.

Navarro County—Corsicana-Powells: Byrd & Frost's Lovett 2, 120-ac lse, John Harris sur, pump 33 bbls, est 500 bbls water, Woodbine 2905-21 ft.

Smith County—Chapel Hill: Texas Co.'s Phillips 2, 2111 ft fr m/s/w 660 ft fr s lines, W. W. Hanks sur, elev 434 ft, massive anhydrite 7197-7449 ft, flow 176 bbls 43-gr, ratio 1525/1, ¼-in, 4000 gals acid, perf 8118-35 ft, td 8318 ft.

EAST TEXAS WATER DISPOSAL WELL

Titus County: Talco—Humble's Peters 2-S, 800 ft ewl 150 ft nsl, Geo. Dyer sur, Pecan chalk 1417-1600 ft, no porosity, abnd 4594 ft.

EAST TEXAS WILDCATS

Henderson County—Failures: Continental-Wiggins & Hyde's Palmer-Magnolia 1, 300 ft out nwc lse, R. D. Palmer sur, elev 461 ft, Pecan 2960-3068 ft, Austin 3990-4340 ft, Woodbine 4746 ft, abnd 5040 ft.

Fohs Oil Co.'s Harwell 1, 330 ft nsl 761 ft wel 100-ac lse, Henry Jeffreys sur, elev 350 ft, Austin chalk 2125-2657 ft, Woodbine 3110 ft, abnd 3382 ft.

Robertson County—Failure: Armstrong & Richardson's Marsh 1, 1820 ft ewl 690 ft nsl, Hugh Henry sur, elev 458 ft, abnd 976 ft.

Wood County—Hawkins New Oil Pay: Humble's E. M. Slaughter 4-B, 1725 ft s 175 ft w of m/e/ne cor, M. A. Esparcia sur, elev 420 ft, Woodbine 4273 ft, Georgetown 4533 ft, flow 76 bbls 27.8-gr, ratio 4620/1, ¼-in, Georgetown 4534-4631 ft.

LOWER TEXAS COAST

Bee County—West Tuleta: Mills Bennett, Anderson-Prichard and Union Producing Co.'s Hall 1, 1320 ft fr se&swl, J. W. Williamson sur, 775-ac lse, 5½-in 7695 ft, perf 7490-7530 ft, flow est 50,000,000 gas, td 7760 ft.

Jim Wells County—Alice: W. L. Goldston's Reed & Lindsey 1, 136-ac tr, Lavaca Gr, 5½-in 5560 ft, perf 5282-86 ft, flow est 28,000,000 gas & spray dist, shut in, td 5575 ft.

Jim Wells County—Seeligson: Sun's Miller 15, 716 ft fr wl SA&AP ROW & 4140 ft fr sl 919-ac lse, set 5½-in 6144 ft, dual completion, perf 4900-05 ft, flow 67 bbls, 5/32-in, perf 6124-29 ft, flow 125 bbls, 7/64-in, td 6145 ft.

Transwestern's Seeligson 7-B, 334 ft fr el & 665 ft fr nl 1318-ac lse, Haldeman subdvn, Y. Canales sur 288, dual completion, 5½-in 6301 ft, perf 5201-06 ft, flow 102 bbls, 9/64-in, perf 5937-45 ft, flow 138 bbls, 7/64-in, td 6365 ft.

Karnes County—Hobson: Seaboard's Moczygemba 2, 330 ft fr sl & 1267 ft fr el 340-ac lse, Don Erasmo Seguin Gr, 5½-in 3998 ft, perf 3993-97 ft, flow 182 bbls, 5/32-in, td 3998 ft.

Nueces County—Agua Dulce: Operators Committee's Rogers 1, 510 ft fr wl & 660 ft fr nl 160-ac lse, Palo Alto subdvn, sec 193, se flank, abnd 7055 ft.

Richardson Petroleum's McCoy 11, 1866 ft fr s'ly nl & 467 ft fr w'ly wl 951-ac lse, Palo Alto Gr, dual completion, 5½-in 6566 ft, perf 6422-32 ft, flow 80 bbls, 9/64-in, perf 6515-20 ft, flow 99 bbls, ⅝-in, td 6912 ft.

Nueces County—Robstown: Sam E. Wilson's Naumann 2, 467 ft fr nwl & 495 ft fr wl lot 15, Paul subdvn, M. L. de Herrera Gr, 207-ac lse, set 5½-in 7230 ft, perf 7141-46 ft, flow 80 bbls, ⅛-in, td 7505 ft.

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UNITED STATES WELL COMPLETIONS

LOWER TEXAS COAST WILDCATS

Jackson County—Failure: Humble's Rose 1, 700 ft fr se & 3200 ft fr nel 197-ac lse, Hatch sur, El Toro area, abnd 6598 ft.

Jackson County—Failure: George W. Strake's DeVille 1, 600 ft fr el & 950 ft fr nl 160-ac lse, sec 11, Sutherland Pasture subdvn, George Menefee sur, abnd 7245 ft.

Jackson County—Discovery: W. L. Pickens' Kramer 1, Little Kentucky field, 467 ft fr s & el of e 60-ac of 75-ac lse, Morris & Cummins sur 34, 5½-in 6060 ft, perf 5703-09 ft, flow 139 bbls, 7/64-in, td 6850 ft.

Jim Wells County—Failure: Highland Oil Co.'s Winters 1, 320-ac tr, share 5, Lavaca Gr, abnd 5643 ft.

LOWER TEXAS COAST NEW PAY

Jackson County—Mayo: Louis Crouch's Vesley 2, 467 ft fr ne&nwl of 200-ac lse, G. P. Aycock sur, A-377, dual completion, 5½-in 5377 ft, perf 5096-5100 ft, flow 62 bbls, ¾-in, perf 5248-52 ft, flow 72 bbls, ½-in, td 5526 ft.

SOUTHWEST TEXAS

Jim Hogg County—Colorado: Humble's King Ranch-Colorado 27, 3960 ft fr w & 660 ft fr nl, AB&M sur 42, 5½-in 3096 ft, flow 82 bbls, 3/16-in, td 3113 ft.

Jim Hogg County—East: Sun's East 10, 500 ft out of sw cor sec 6 on 8400-ac lse, Santo Domingo de Arriba Gr, abnd 4815 ft.

Starr County—Sun: Sun's McKinney 1, 1980 ft fr s&wl, A. J. Smith sur 240, dual gas completion, 9⅝-in 5575 ft, perf 4088-96 ft, flow est 30,000,000 gas, perf 4105-13 ft, flow est 30,000 gas, td 12,188 ft.

Webb County—Dulup: Sawnie Robertson's Puig 2, 40-ac lse, Las Albercas de Arriba Gr, abnd 1865 ft.

SOUTHWEST TEXAS WILDCATS

Duval County—Failure: C. H. Lewis' Benavides 1, Cole area, 40-ac tr Mariano Arispo Gr, abnd 3513 ft.

McMullen County—Failure: Edwin Jones' Ezell 101, 330 ft fr n&wl of e 80-ac of se¼ sec 7, Ezzell Rch, Patrick McFadden sur, abnd 2550 ft.

Webb County—Failure: Dulup Oil Co.'s Garcia 2, 933 ft fr nl & 1048 ft fr wl blk 42, Los Ojuelos Gr, abnd 1915 ft.

NORTH TEXAS

Baylor County—Seymour: British-American's Fowlkes 5, c nw T&NO sec 215, pump 62 bbls, 43 bbls wtr, 500 gals acid, Canyon 2528-33 ft.

Clay County: Johnson & Gorman's Cheeves 2, blk 55, Bacon sur, pump 35 bbls, 1126-40 ft.

C. A. Johnston et al's Parker 1, 450 ft out sec blk 44, Specht-McCutchen sur, abnd 1398 ft.

Staley Oil Co.'s Hamilton 10, 150 ft snl 1590 ft wel blk 83, Byers sur, pump 66 bbls, 1107-17 ft.

Texas Co.'s W. F. George 6, abnd 1147 ft.

Cooke County: F. W. Merrick's Trubenbach 1, 1200 ft n 150 ft e of sec, P. Davidson sur, in J. Clark sur A-194, pump 10 bbls, 1123-26 ft.

Texas Co.'s Cooke 1, 2450 ft snl 3300 ft ewl of A. Patterson sur, pump 32 bbls, sand 1047-50½ ft, td 1051 ft.

Jack County—Weir: Continental's Cooper 1, 330 ft out nwc, F. D. Hammond sur, pump 71 bbls 41-gr, sand 2326-28 ft.

Montague County—Bowers: Pace Pet Co.-A. V. Grant's Miller 1, 330 ft nsl 485 ft wel 47-ac lse, E. A. Maynard sur, abnd 3106 ft.

Montague County—Benson-Dodson: Phillips' Dodson-Dod 2, 1597 ft snl 2503 ft ewl, T. R. Jackson sur, Bend 5010 ft, flow 1577 bbls 40-gr, ½-in, 5125-40 ft.

Wichita County—K-M-A: Gulf's Mangold-E. C. Oil Co. 7, 614 ft snl 1402 ft ewl blk 35, W. H. Spillers sur, flow 428 bbls, ½-in, shot 145 qts 3746-3835 ft, td 3872 ft.

Wichita County—Airport: Consolidated Oil Co.'s Spicer 1, 495 ft nsl 523 ft wel blk 2, Cherokee CSL, Ellen 5375 ft, abnd 5381 ft.

Wichita County: Homer Lee et al's Love 1-B, 712 ft snl 200 ft ewl, W. C. Kennard sur, abnd 1208 ft.

Paradise Oil Co.'s Waggoner Est. 7-E, 1260 ft from m/e/e 100 ft nsl TC Ry sur A-816, flow 480 bbls, ¼-in, 2025-43 ft.

Texas Co.'s Waggoner Est. 440-A, pump 9 bbls, shot 5 qts 534-544 ft.

Magnolia's Schomker 44, 1280 ft snl 1382 ft ewl sec 23, Red River Valley Lands, pump 24 bbls, sand 1759-78 ft.

Young County: L. T. Burns et al's Gass 1, 660 ft out nwc sec 1592, TE&L sur, Bend 4467 ft, abnd 5125 ft.

Burk Roy Co.'s Graham 1, 330 ft snl 1740 ft wel sec 2726, TE&L sur, abnd 3316 ft.

Christie Bros.' Fitzgerald 2, 330 ft fr ne 1330 ft fr se lines 103-ac tr, I. L. Hill sur, flow 90 bbls, ¼-in, shot 85 qts 3787-3819 ft, td 3822 ft.

Fleming Oil Co. et al's Graham 2, 530 ft wel 1399 ft snl w½ sec 2912, TE&L Co. sur, elev 1244 ft, Palo Pinto 1860 ft, Bend 3798 ft, Marble Falls 4298 ft, Miss 4590 ft, flow 110 bbls, 2-in, Marble Falls pay 4300-40 ft, shot 25 qts 4298-4330 ft, td 4665 ft, pb 4330 ft.

Jermone-McLester-C. A. Lupton's Hardether 1, 700 ft snl 467 ft wel, S. L. Ribble sur, jkd 1650 ft.

NORTH TEXAS GAS INPUT WELL

Wichita County: Paradise Oil Co.'s Waggoner Est. 8-E, 660 ft snl 450 ft ewl sec 1, GC&SF sur A-731, perf 1983-93 ft, td 2000 ft.

NORTH TEXAS WELL DEEPENED

Jack County—Bryson: Brazos River Gas Co.'s Clayton 2, 2257 ft wel 990 ft nsl, Jas. Matthews sur A-398, otd 2900 ft, Barnett 4711 ft, Miss 4766 ft, 2,750,000 dry gas, cp 1920 lbs, Miss pay 4768-69½ ft.

NORTH TEXAS WILDCATS

Archer County—Failures: L. T. Burns et al's Frerich 2, 1450 ft nsl 1000 ft ewl sec 106, blk 4, Clark-Plumb sur, abnd 1009 ft.

Cochran & Cain's Lemmons 1, 800 ft nsl 300 ft wel blk 3, G. P. Meade Pasture, abnd 1320 ft.

G. E. Kadane & Son's Jones-Cullum 1, ne ne nw SP Ry sec 2, A-1255, KMA 4132 ft, Ellen 5027 ft, jkd 5055 ft.

J. L. McMahon et al's DeMoss 2, 200 ft snl 800 ft ewl sec 17, blk 5, Clark-Plumb sur, abnd 1115 ft.

Rathke Oil Co.'s Moss 1, 300 ft snl 2000 ft wel sec 2479, TE&L sur, abnd 1654 ft.

Frank Wood et al's O'Keefe 1, 950 ft nsl on e line sec 32, blk 5, Clark-Plumb sur, abnd 1202 ft.

Texas Co.'s Turbeville 1-O, 990 ft out nec blk 145, Robt. Carson sur, KMA 3360 ft, Bend 4957 ft, abnd 5503 ft.

Cooke County—Failure: Bridwell Oil Co.'s Campbell 1, 694 ft snl 5556 ft ewl, O. F. Leverett sur A607, abnd 1645 ft.

King County—Discovery: Humble's Bateman 1, 4204 ft nsl 660 ft wel sec 101, blk A, John B. Rector sur, 24 miles s by w nearest production, elev 1782 ft, flow 361 bbls 33.1-gr, ratio 161/1, ¾-in, 4000 gals acid, 3688-3702 ft.

Young County—Discovery: Fleming Oil Co. et al's M. K. Graham 1, 467 ft out swc ne TE&L sec 2912, elev 1233 ft, Palo Pinto 1847 ft, Bend 3778 ft, Marble Falls 4260 ft, Miss 4626 ft, Ellen 4796 ft, flow 75 bbls, 2-in, Marble Falls sand 4265-80 ft, td 4927 ft, pb 4280 ft.

WEST TEXAS

Andrews County—Fullerton: Fullerton Oil Co.'s University 2-A, c sw ne sec 6, blk 13, flow 870 bbls, ⅝-in, 16,000 gals acid Clear Fork 6739-7250 ft.

Andrews County—Means: Humble's R. M. Means 31, PSL 3, blk C-45, flow 64 bbls, 2-in, gas lift, 7500 gals acid, td 4506-54 ft.

Cochran County—Slaughter: Bay Pet. Corp.'s Mallet-Humble 10, 580 ft out SEc lab 19, lge 53, Scurry CSL, flow 259 bbls, 2-in, 1750 gals acid, td 4998-5026 ft.

Devonian et al's Duggan 37-A, 560 ft ewl 510 ft snl, lab 6, lge 55, Oldham CSL, flow 938 bbls, 12,000 gals acid 4998-5041 ft.

Superior of Cal.'s Dean 13, 5956 ft, wel 1573 ft nsl, lge 57, Martin CSL, pump 271 bbls, 12,000 gals acid 4911-89 ft.

Crane County—McElroy: Brown-Hancock-Hines Oil Corp.'s University 1, ne nw se sec 45, blk 30, pump 202 bbls, shot 300 qts 2750-2985 ft.

Crockett County—Noelke: A. J. Rife et al's State 1-A, 722 ft snl 330 ft wel, sec 71½, blk GG, B. B. Ingham sur, abnd 1378 ft.

Crockett County: World-Powell-H. G. Eastham, Jr. et al's Sorg-Humble 4, 660 ft nsl 1320 ft ewl GC&SF 61, blk GG, pump 55 bbls, 20% wtr, 500 gals acid 2656-74 ft.

Ector County—North Cowden: Stanolind's Midland Farms 8-D, 210 ft w 769 ft s of NWc sec 42, but in Callahan sur, flow 340 bbls, ¾-in, shot 667 qts 4595-4822 ft.

Gaines County—Russell—Magnolia and Atlantic's H. & J. 1-459, c sw nw sec 459, blk G, CCSD&RGNG sur, elev 3583 ft, San Andres 4500 ft, Clear Fork 6130 ft, flow 146 bbls, ¼-in, gas-oil ratio 726/1, shot 325 qts 7635-7777, 295 qts 7468-7594 ft, 7000 gals acid, td 8053 ft, pb 7780 ft.

Glasscock County: Continental-Group 1 Oil Corp.'s Settles 2-S-B, se sw nw W&NW 160, blk 29, pump 124 bbls, sand 1275-1307 ft.

Hockley County—Slaughter: J. C. Hawkins et al's Mallet 48-A, lab 14, leag 47, Edwards CSL, flow 555 bbls, 12,500 gals acid, td 4905-83 ft.

T. F. Morrow et al's Oil Development-Willard 1, 440 ft out Swc lab 24, leag 45, Edwards CSL, flow 387 bbls, 10,000 gals acid 4892-4929 ft.

T. F. Morrow et al's Oil Development-Willard 2, 440 ft out SEc lab 24, lge 45, Edwards CSL, flow 344 bbls, 4.8% wtr, 12,000 gals acid, 4901-42 ft.

Permian Oil Corp.'s Mallet 25-B, 510 ft out SWc lab 20, lge 47, Edwards CSL, flow 767 bbls, 11,900 gals acid, 4940-5005 ft.

Howard County—Vincent: Magnolia's Winters 1, c ne ne H&TC 6, blk 25, elev 2335 ft, abnd 4200 ft.

Howard County—Iatan-East Howard: Sinclair Prairie's Davis 2, se ne sw T&P 44, blk 30, T-1-N, pump 68 bbls, 225 wtr, shot 400 qts 2613-2720 ft, td 2735 ft, pb 2727 ft.

Mitchell County—Westbrook: Coltex Ref. Co.'s Graeber 1, 332 ft snl 410 ft wel nw T&P 22, blk 28, T-1-N, pump 60 bbls, shot 990 qts 2821-3178 ft, td 3188 ft.

Col-Tex Ref. Co.'s Morrison 1, ne nw se

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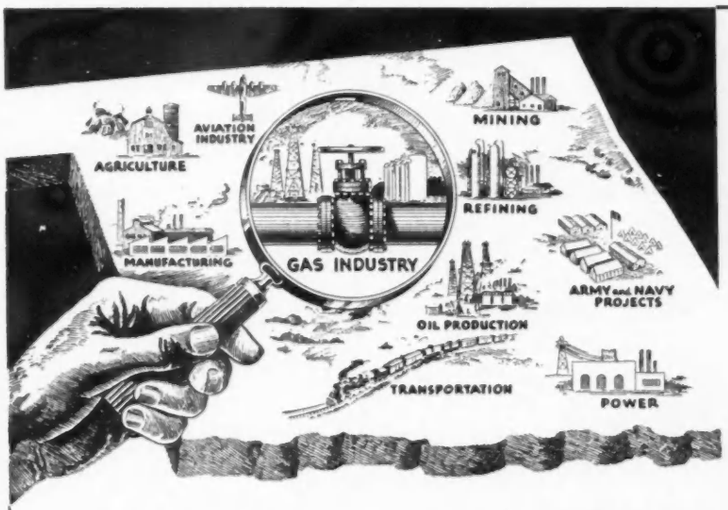
El Dorado, Arkansas



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UNITED STATES WELL COMPLETIONS

T&P 28, blk 28, T-1-N, pump 48 bbls, 5 bbls wtr, shot 745 qts 2900-3160 ft, td 3230 ft, pb 3160 ft.

Col-Tex Ref. Co.'s Morrison 2, 2311 ft nsl 1007 ft ewl T&P 27, blk 28, pump 73 bbls, shot 800 qts 2850-3165 ft.

Reagan County — Barnhart: Amerada's Hickman 1, 660 ft out SEc HE&WT, sec 4, elev 2782 ft, base shale 8870 ft, Ellenburger 8890-8975 ft, flow 4903 bbls, 2-in, 10,000 gals acid, td 9264 ft.

Stonewall County—Boyd: Humble's Gholson 1, c sw se H&TC 44, blk D, elev 1672½ ft, Palo Pinto 4709 ft, pump 20 bbls, 20 bbls wtr, shot 6000 gals acid 4707-12 ft, td 4718 ft.

Winkler County—Weiner: Stanolind's Brown 7, 1992 ft snl 660 ft wel PSL 5, blk B-11, flow 130 bbls, ¼-in, td 3155 ft.

WEST TEXAS WELLS DEEPENED

Cochran County—Slaughter: Magnolia's Dean 5-A, 1980 ft out sec lse, Lge 58, Martin CSL, otd 4954 ft, flow 53 bbls, 11% bs&w, 1500 gals acid 4907-95 ft.

Crane County—McCamey: Shell's Sapp 3, 3250 ft from m/s 2250 ft wel sec 6, H. T. Sapp sur, otd 2100 ft, pump 15 bbls, 64 bbls wtr, pay 2030-2161 ft.

WEST TEXAS WILDCATS

Crane County—Failure: Atlantic Ref. Co.'s University 1-H, c sw nw sec 35, blk 31, elev 2559 ft, anhydrite 900 ft, salt 1400 ft, abnd 3300 ft.

Pecos County—Failure: Bryce McCandless et al's Turney-Humble 1, c se se T&StL Ry 19, blk 141, elev 2511 ft, detrital 4730 ft, granite-wash 4750 ft, granite 4985 ft, abnd 4986 ft.

WEST TEXAS WILDCAT DEEPENED

Mitchell County—Failure: M. L. Richards et al's Erwin 1, nw nw nw H&TC 1, blk 25, otd 3065 ft, elev 2392 ft, abnd 4253 ft.

TEXAS GULF COAST

Brazoria County—Damon Mound: General Crude & L. A. Layne's Wisdom 8, 840-ac tr, Abraham Darst sur, abnd 4113 ft.

Brazoria County—Lochridge: Grubb & Hawkins' Wood 1, 3100 ft fr s & 3400 ft fr wl e 711-ac tr, Thomas Alsburg sur, 5½-in 6370 ft, perf 6351-55 ft, flow 113 bbls, ⅛-in, td 6410 ft.

Chambers County—Turtle Bay: R. J. Ursillo's Robertson-McDonald 1, 990 ft fr el & 330 ft fr sl e 350-ac of 500-ac lse, Moses Carroll sur, 5½-in, 6582 ft, perf 6566-70 ft, flow 236 bbls, 7/32-in, td 6582 ft.

Jefferson County—Stowell: Glenn H. McCarthy's Powell 1, 80-ac lse, lot 8, Koch subdvn, B. A. Vacocu Lge, abnd 10,291 ft.

Waller County—Katy: Tide Water's Stockdick 1, 320-ac tr, H&TC sur, 5½-in 7367 ft, perf 6864-66 ft, flowed gas, shut in, td 7369 ft.

TEXAS GULF COAST WILDCATS

Chambers County—Failure: Wynn Crosby & Kirby Petroleum's Smith 1, 551 ft fr nl & 760 ft fr el, R. W. Nelson sur, abnd 9019 ft.

Fort Bend County—Failure: Trull & Thompson's Trone 1, Long Point area, 320-ac lse, H&TC sur, abnd 3569 ft.

Galveston County — Failure: Jack W. Frazier, Ray Ranger & Weber Ogden's Cooper 1, 40-ac unit, I&GN sur 13, ne Algoa, abnd 9508 ft.

Jefferson County—Failure: Sun's Quinn 1, Helbig area, H. B. Savery Lge, abnd 8300 ft.

WEST CENTRAL TEXAS

Jones County—South Noodle: Cardinal Oil Co.-J. W. Bryan's Carter 2, 1401 ft snl 467 ft wel se T&P 33, blk 18, elev 1874 ft, pump 47 bbls, 3000 gals acid 2460-63 ft, td 3084 ft, pb 2485 ft.

Jones County—Wimberly: Bailey Balken et al's Dunnigan 2, 1271 ft nsl 330 ft wel, blk 89, DeWitt CSL, dual well, flow 1800 bbls, ¾-in, 1000 gals acid upper pay 2380-2415 ft; flow 1576 bbls, ¾-in, 2000 gals acid lower pay 2445-2505 ft, td 2600 ft.

Clark-Cowden Dr. Co.'s Mashburn 3, 420 ft snl 590 ft wel s½ blk 85, DeWitt CSL dual well, flow 2592 bbls, ¾-in, 1000 gals acid 2412-40 ft; flow 1568 bbls, ¾-in, 1500 gals acid lower pay 2481-2534 ft, td 2562 ft.

Maracaibo Oil Exploration Corp.'s McCoy 2, 398 ft nsl 871 ft ewl blk 67, DeWitt CSL, dual well, flow 1500 bbls, ¾-in, 1000 gals acid 2430-40 ft; flow 960 bbls, ¾-in, 6000 gals acid lower pay 2540-84 ft, td 2622 ft.

Shackelford County: Baker & Pardue's Davis 5-B, 2312 ft nsl 1325 ft ewl T&P 10, blk 13, pump 47 bbls, sand 1417-27 ft.

Hickok & Reynolds' Nail 9-C, 1650 ft wel 469 ft nsl n½ ET Ry sec 133, pump 64 bbls, perf 1534-40 ft.

WEST CENTRAL TEXAS OLD WELLS DEEPENED

Jones County—Wimberly: Bailey Balken et al's Dunnigan 1, 330 ft out SEc e-40 of s-100 ac blk 89, otd 2342 ft, dual well, flow 1200 bbls, ¾-in, 2000 gals acid 2478-2516 ft, td 2653 ft.

North American Oil Consolidated's Mashburn 3, 330 ft out NWc e½ of s½ blk 86, otd 2314 ft, dual well, flow 1504 bbls, ¾-in, 1500 gals acid 2438-2480 ft, td 2505 ft.

Ernest Wilson et al's Mashburn 3, 330 ft out SEc n½ blk 85, otd 2420 ft, dual well, flow 1644 bbls, ¾-in, 1000 gals acid 2490-2530 ft, td 2550 ft.

WEST CENTRAL TEXAS WILDCATS

Jones County—Failure: Watchorn O&G Co.'s Farnsworth 1, 2000 ft snl 400 ft ewl lot 4, Sam Jones sur No. 266, elev 1799 ft, abnd 2604 ft.

Parker County—Failure: Continental's Davidson 1, 2309 ft nsl 330 ft ewl T&P 242, A-2430, elev 1257 ft, Bend 4290 ft, Barnett 5720 ft, detrital 6155 ft, Ellenburger 6430 ft, abnd 6516 ft.

United States Wildcat Starts

ARKANSAS

Union County: Atlantic Refining Co.'s Murphy 1, 2-18-18, nw Shuler field, lcn.

CALIFORNIA

Fresno County: Wilshire Oil Co.'s 1, sw se se 34-18-15, Coalinga North area, lcn.

Kern County: S. H. Staggers 3, 26-28-28, Kern River area, mim.

George Terry's 1, ne ne ne 18-30-22, McKittrick area, lcn.

Chanslor Canfield Midway Oil Co.'s 26, se se ne 1-32-22, Midway area, mim.

General Petroleum Corp.'s Malta 1, ne se se 14-28-28, Round Mountain area, mim.

ILLINOIS

Cumberland County: Walter Vette's Hunt 1, se se sw 25-9n-8w, dr.

Cole County: C. W. Davey et al's M. & G. Scott 1, se se sw 31-12n-8e, dr.

Effingham County: Kiowa Drlg Co.'s Londenberg 1, se se nw 35-7n-6e, lcn.

Franklin County: J. W. Murchison's Franklin County Coal Co. 1, ne sw se 11-5s-2e, dr.

Nat'l Assoc. Pet. Co.'s Old Ben Coal Co. 1, nw sw ne 4-6s-2e, lcn.

Jasper County: Helmerich & Payne's Charles Honey 1, ne ne 22-5n-10e, lcn.

Jefferson County: J. W. Murchison's Sledge 1, se se se 34-3s-2e, lcn.

Shelby County: Fuller & Turner's Channess 1, ne sw ne 4-9n-6w, dr.

White County: Seaboard Oil Co.'s Ivan White 1, sw nw se 3-5s-9e, lcn.

Great Lakes Carbon's F. Reiling Heirs 1, ne sw sw 22-6s-10e, lcn.

Vermillion County: Sam J. Burkett's Van Auken 1, ne sw sw 20-15n-10e, dr.

INDIANA

Pike County: J. M. Dawson's T. Roy & Enos Coal Co. 1, ne ne sw 16-3s-7w, lcn.

KANSAS

Ellis County: Phillips' Harman 1, se cor 1-12s-19w, dk.

Ellsworth County: Shell's J. Brejcha 1, ne se nw 5-17s-10w, c&p.

Greenwood County: Bert Ash et al's Miller 1, ne sw 15-26s-11e, sd 555 ft.

Pepper et al, R. H. Maus 1, se nw 2-27s-9e, mim.

K. T. Weideman's Edgar "B" 1, nw sw ne 2-28s-8e, dr 1845 ft.

Jefferson County: Dan McLaughlin's J. Heibach 1, c ne nw 17-9s-19e, rum.

Kingman County: Derby Oil Co.'s Comanche 1, c se nw 8-28s-8w, lcn.

Kiowa County: Texas Co.'s W. C. Metchell 1, nw ne ne 2-27s-18w, lcn.

Marion County: Nelson Drlg. Co.'s Fenske 1, c wl nw sw 6-17s-1e, 2677 ft rust.

Marshall County: B. B. Blair's Cox 1, c sw sw 10-4s-7e, dr 1276 ft.

McPherson County: Browne & Strause's M. Leffler 1, se ne 23-19s-1w, KC 2324 ft dr 2610 ft.

Reno County: Nelson Drlg. Co.'s "S" Bacon 1, nw ne ne 31-23s-5w, lcn.

Saline County: Margay's Anderson 1, c nw sw 3-16s-3w, Anhy 260 ft, dr 270 ft.

Stafford County: Phil-Han's Taylor 1, nw ne nw 2-21s-12w, rur.

KENTUCKY

Henderson County: Lacy & Wood's Bauldauf 1, 16-Q-22, dr.

Vanderburgh County: Delta Drlg & Cochran's Mann 2, 21-R-23, lcn.

Webster County: Big Chief Drl Co.'s Diamond Coal 1, 23-L-21, lcn.

Sohio's Rideant 1, 10-N-24, lcn.

MICHIGAN

Allegan County: Fisher-McCall's Baker 1, sw sw se 27-4n-11w, rig.

Bay County: United Driller's Arms 1, s½ se nw 7-14n-6e, rig.

Clinton County: J. E. Hood's Guernsey 1, ne sw ne 19-8n-4w, dk.

Lenawee County: W. H. Eckert's Taylor 1, se ne sw 32-8s-5e, dr.

Montcalm County: Southwest Dev. Co.'s Hopkins 1, ne ne nw 18-11n-6w, rig.

Ottawa County: E. L. Bourret's Kleis 1, se ne nw 26-5n-15w, lcn.

NEW MEXICO

Harding County: Adams & McGaha's State-Kerlin 1-A, c nw se 21-21n-30e, rum.

San Miguel County: Great Lakes Carbon Corp.'s Earickson 1, 1320 ft snl 1984 ft ewl 1-15n-12e, mim.

Bond Jones et al's State 1, c lot 6, nw¼ 1-13n-15e, lcn.

OKLAHOMA

Atoka County: Amerada-Stanolind's Leonard 1, se sw ne 25-3s-9e, lcn.

Carter County: Samedan's Revelles 1, c se se se 21-3s-2w, lcn.

Garvin County: Ohio Oil Co.'s Brundage 1, nw se ne 17-3n-2e, lcn.

Seminole County: Gulf's Keys 1, ne nw se 9-11n-8e, c&p.

Stephens County: Briscoe's Edward 1-A, sw se ne 4-3s-6w, 87 ft, woc.

SOUTHWEST TEXAS

McMullen County: Edwin M. Jones' Ezzell 102, sec 10, Ezzell Rch, lcn 2500 ft test.

Zapata County: Henne-Winch's Fee-State 1, 330 ft fr s&el blk 16, sur 286, 640-ac lse, lcn 3100 ft test.

SOUTH CENTRAL TEXAS

Guadalupe County: A. J. Hollyfield's Webb 1, 101-ac lse, Benjamin Fuqua sur, lcn Edwards lime test.

Milam County, J. C. McKeehan's Patillo 1, 172-ac lse, Jose Leal Gr, 3 mi n Minerva, lcn 5000 ft test.

LOWER TEXAS COAST

Bee County: Texas Co.'s Cook 1, 75-ac lse, Henry Coley sur, 1 mi nw Mineral, lcn 8000 ft Wilcox test.

Brooks County: LaGloria Corp.'s Miller 1, 59-ac tr, Los Olmos y Loma Gr, lcn 7000 ft test.

Sun's Cage 4, 3000 ft fr wl & 10,500 ft fr sl Lenardo Vargas Gr, 23,219-ac tr, lcn 7500 ft test.

Goliad County: H. H. Coffield, Jack W. Frazier, R. N. Ranger's Chilton 1, 321-ac lse, John F. Payne sur, lcn 9000 ft test.

Hidalgo County: Sun's Fitzpatrick & West 1, 3697-ac lse, porcions 73, 74, 75, lcn 7000 ft test.

Sun's Garza 1, 3 mi ne San Manuel, 2722-ac lse, San Salvador del Tulle Gr, lcn 9500 ft test.

Jackson County: John C. Wynne's Mauritz Bros. 1, 330 ft fr n&el w 40-ac of s½ blk 3, John Davis sur, 2 mi ne Ganado, lcn.

Jim Wells County: Bay-Tex Oil Co.'s Knolle 1, 576 ft fr s&el of blk 8, J. H. Gallagher subdvn, Casa Blanca Gr, lcn 6300 ft test.

Butcher-Arthur's Schaeffer 1, 160-ac tr, John T. Porter sur, lcn 7000 ft test.

H. F. Wilcox Oil and Gas Co.'s Sanchez 1, 150-ac tr, La Tinaja de Lara Gr, lcn 5000 ft test.

Karnes County: Ce-Beth Oil Co.'s Mischer 1, 282-ac lse, John F. Miller sur, lcn Wilcox test.

Nueces County: C. P. Burton's Gentry 1, 40-ac tr, lot 8, blk 1, Nueces River Irrign Park subdvn, Marrino Lopez de Herrera Gr, lcn 7300 ft test.

Victoria County: Rowan & Hope's Bucher 1, 166-ac lse, Indianola RR sur 52, lcn 4500 ft test.

EAST TEXAS

Henderson County: Continental-Pete Wiggins and Ed Hyde s Warren 1, 330 ft snl 1550 ft wel of tr J. F. Lambright sur, mim.

B. F. Phillips et al's I. B. Welch 1, 467 ft nsl 934 ft ewl of 138-ac tr, Isaac Greeson sur, dk for Woodbine test.

Houston County: C. B. Culmore et al's J. C. Stephens 1, 330 ft out NEc 45.9-ac lse, John Forbes sur, rig.

Robertson County: Armstrong & Richardson's E. G. Marsh 1-A, 1320 ft ewl 660 ft nsl, Hugh Henry sur, rig.

Smith County: Sun Oil Co.'s Patterson 1, 2000 ft wel 660 ft nsl, Felix Flores, sur, Sand Flats prospect, lcn, Paluxy test.

NORTH TEXAS

Archer County: Akin-Dimock et al's Skinner 2, 1300 ft wel 800 ft nsl sec 20, J. W. Harris subdiv, lcn.

J. L. McMahon el al's I. C. Elmore 1, 1000 ft snl 2000 ft ewl sec 29, blk 5, Clark-Plumb sur, lcn 1150-ft test.

Pois & Schultz's M. Sadau 1, 2790 ft snl 1250 ft wel, Geo W. Stell sur A-382, lcn 1500-ft test.

R. R. Robertson et al's C. L. Abercrombie 1, 1420 ft nsl 100 ft ewl sec 152, J. W. Harris subdiv, cem surface pipe.

White & Duncan's R. C. Kinder 1, 330 ft out SEc sec 62, blk 5, Clark-Plumb sur, testing snd 1242-50 ft.

White & Duncan's Kinder 1-A, 330 ft out nwc sec 50, blk 5, Clark-Plumb sur, lcn 1350-ft test.

White & Duncan's Kinder 1-B,330 ft out SEc sec 111, blk 4, Clark-Plumb sur, lcn 1350-ft test.

G. E. Kadane & Sons' Jones-Cullum 1-B, se se se SP Ry sec 2, A-916, lcn 4500-ft test.

Clay County: Geo. Keith Jr et al's Romaine McCarty 1, 300 ft nsl 1020 ft ewl blk 46, Specht-McCutchen sur, lcn 1300-ft test.

Lacy & Cook's M. M. Lyles 1, 330 ft out nec s½ blk 25, San Augustine University sur, lcn 6500-ft test.

R. Olson Oil Co.-Continental's Scaling 1, 330 ft out m/e/ne cor, J. Gamble sur A-168, lcn 6300-ft test.

Cooke County: Bridwell Oil Co.'s Campbell 2, 2500 ft snl 600 ft wel, O. Leverett sur A-667, lcn 2000-ft test.

C. E. Mashall and M. P. Springer's M. P. Springer 1, 330 ft snl 4869 ft wel of 517-ac tr, Alex Horton sur A-443, lcn 6200-ft test.

Jack County: Homer Mann et al's J. W. Kinder 1, 330 ft out nwc sec 2667, lcn 2300-ft test.

Montague County: Continental's 1st Nat'l Bank (St. Jo) 1, 166 ft wel 315 ft nsl, J. Lobley sur A-779, lcn 4500-ft test.

Sinclair Prairie's W. M. Templeton 1, 1285 ft from sw 660 ft from se lines, Edward Wingate sur A-836, lcn 7500-ft test.

Young County: S. H. Fagadau et al's Mrs. S. A. Doyle 1, 1630 ft nsl 1000 ft wel sec 184, TE&L sur, lcn.

L. T. Burns et al's Finch 1, 330 ft out sec sec 38, TE&L sur, lcn 5000-ft test.

WEST CENTRAL TEXAS

Shackelford County: C. A. Montgomery et al's G. W. Norton 1, 1600 ft fr sw 480 ft from se lines TE&L sec 567, lcn.

Stephens County: A. W. Cherry & Barron Kidd's D. L. White 1, 330 ft snl 2300 ft wel T&P 46, blk 7, lcn, 2,000-ft test.

WEST TEXAS

Borden County: Globe O&R Co.'s Clayton-Johnson 1, c nw nw T&P 41, blk 32, T-4-N, lcn 9000-ft test.

Hockley County: Globe O&R Co.'s V. J. Williams 1, 580 ft out NWc lab 2, Lge 735, State Capitol Lands, lcn 6500-ft test.

Winkler County: Sun Oil Co.'s Keystone Cattle Co. 2, 660 ft nsl 1987 ft wel, PSL 4, blk 77, lcn Ellenburger test.

WYOMING

Big Horn County: Yale Oil Corp.'s Government 1, c se ne 33-55n-95w, Alkali anticline, sp.

Carbon County: Stanolind's Johnson Parkinson 1, se ne sw 20-18n-77w, Cooper Cove district, rur.

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University of Texas, Austin, Texas

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Squeaks from the Bull Wheel

Guadalupe Gets His Gas

Guadalupe Soto, a Mexican who speaks little English walked into a school building which houses Red Cross, rationing and other wartime agencies.

A nurse took his name, address and other data, and sent him to an inner room where attendants drained the usual pint of blood.

Then the bewildered Guadalupe managed in broken English:

"Now do I get my Gasoline?"

More Specific

"As I understand the case," said his honor, "you and your husband had a drunken altercation and you were kicked in the ensuing rumpus."

"No, suh, Jedge. You is mistaken," replied Mandy. "Ah was kicked in the stummick."

Scripture on Both Sides

Heard the story of the minister who angled for a supplementary gasoline ration? On his application form appeared, "Remember the Commandment, 'Go ye unto all the world and preach the gospel!' "

The official reply showed that they knew how to deal with this kind of customer. In a scholarly hand on the letter refusing the request were the words: "And I saddled me an ass."

Helpful

"Can I be of service to you?" inquired the floorwalker. "I don't know," replied the perturbed young man. "I was told to stop in here and buy either a camisole or a casserole, and for the life of me I can't remember which."

"If you'll tell me what kind of a chicken you propose to put in it, perhaps I can help you."

Able to Make It

A woman missed her gloves as she was leaving the restaurant where she had dined with her husband. Asking him to wait, she hurried back to look for them, searching first on the table and finally lifting the cloth to peer under it.

Just then a waiter hurried up to her.

"Pardon me, madame," he said, "but the gentleman is over there by the door."

It Worked

A parson, walking down the street, was attracted by some very strong and colorful language close by. Turning, he observed a man having difficulty in slipping the rim of his spare tire on the wheel. "My good man, that kind of language won't help you," he said. "When you are in trouble you should ask the Lord to help you." "Well," replied the angry driver, "I've tried everything else, I might as well try that." So saying, he bowed his head for a moment, then raised up, took the rim and slid it smoothly and easily onto the wheel. The parson looked, scratched his head, and "Well, I'll be ——," he said.

No Expensive Tastes

A mountaineer coming to town saw for the first time a bunch of bananas.

"Want to try one?" asked a friend.

"No, I reckon not," said the man of the mountains. "I've got so many tastes now I can't satisfy, I don't reckon to take on more."

Never Told Him

Desperately in need of 50 cents, a fellow we know finally got up enough courage to open his pay envelope before taking it home to his exacting wife. Somewhat mystified at what he found therein, he hurried back to the cashier who had given him the envelope.

"You've given me ten dollars too much, I'm afraid," he stammered.

The cashier counted the bills and coins, then replied impatiently: "It's quite correct. I suppose you've forgotten that you got a ten dollar raise last month."

He placed his hand across his eyes, shrank into his collar farther and said faintly: "My wife never told me."

The Age-Old Cry

Cogia, the Turk, had a wife whose shrewish cunning and trickery was the everlasting sorrow of his life.

One day the fiendish creature brought to the table a pot of exceedingly hot broth, and, forgetting that it was hot, took a spoon and put some of it into her mouth. The scalding liquid brought tears to her eyes.

"Why are you crying, wife?" inquired Cogia solicitously. "Is the broth hot?"

"No," replied the woman, "my mother liked broth very much, and when this stew reminded me of her I wept because she was gone."

Thus deceived, Cogia took a spoonful of the broth, and when the stuff burned his mouth cried out in pain and vexation.

"Why do you cry?" asked the woman, secretly exulting.

"You cry because your mother is gone," replied Cogia bittery, "but I cry because her daughter is here."

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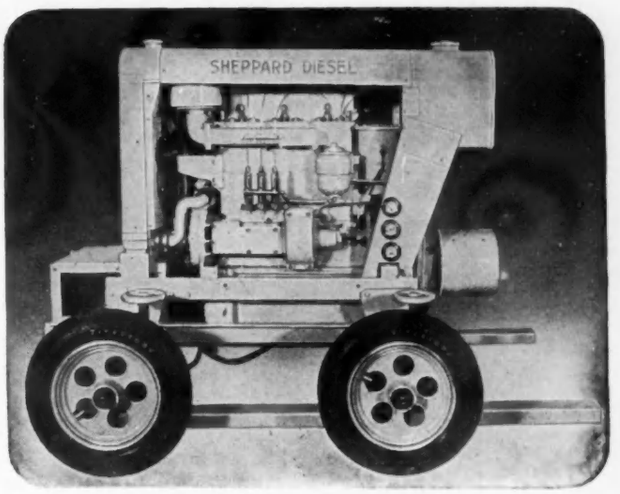

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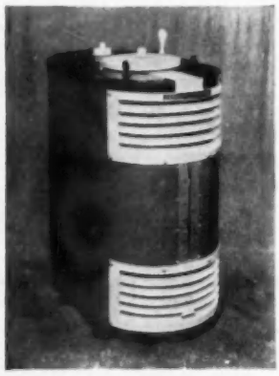
Notes for the Equipment Buyer and User

Outdoor Welding Outfit

GENERAL ELECTRIC COMPANY

General Electric Company, Schenectady, New York, has developed a 500-ampere outdoor alternating-current welder with welding current range from 100 to 625 amp at 40 volts. The outfit was especially designed for outdoor locations where exposure to the weather is encountered.

A feature of this welder is an "idlematic" control which automatically reduces the output voltage to less than 35 volts whenever the arc is not in operation, but provides full power for welding



GE Outdoor Welding Outfit

the instant the arc is struck. This control also includes a switch operated by a handle extending through the top of the case for starting or stopping the welder manually.

The welder is protected against the entrance of rain, snow and sleet by dripproof construction of all openings in the top of the case and by a sealed window over the current indicator. Wide louvers serve not only to shed water but to keep air velocity low. All internal parts have a special finish for protection against corrosion from moist air.

In addition, the welder is provided with all the features incorporated in indoor a-c welders of this type. These include built-in power-factor improvement which provides low current input by maintaining the power factor at 95 per cent or better at all loads between 40 and 70 percent of rating. They also include finger-tip adjustment, stepless current control, fan-forced ventilation, and capacity for operation with long leads.

Plastic Shot Hole Casing

FEDERAL ELECTRIC COMPANY

Federal Electric Company, 8700 South State Street, Chicago, and 700 Waugh Drive, Houston 6, has issued a bulletin describing plastic shot-hole casing for seismograph explorations.

The casing has an outside diameter of 3-1/32 inches with an inside diameter of 2-45/64 inches. It is furnished in 10-foot lengths. It withstands 200 pounds of hydrostatic pressure, and threads on the casing withstand 2500-4000 pounds pull or torque tests with either standard coupling FC-300 or heavy duty coupling FCH-300. The casing is packed for shipment in seven 10-foot lengths, 70 feet to a bundle weighing 61¼ pounds.

This relatively light weight makes it possible to handle the material with a minimum of manpower and fewer trucks are needed for transportation.

Plastic material gives the casing a low rate of moisture absorption, making it exceptionally practical for marsh, swamp and water operation. Strength of the threads assures tight joints keeping the hole open for repeated shots and positive action in jetting operations with maximum recovery after the shot.

A line of improved accessories is provided for the casing.

Belt

Manheim Manufacturing & Belting Company, Manheim, Pennsylvania, has ready for distribution, a new catalog on v-belting. The catalog is also an instruction manual and shows in detail the sequence of operations to take "Veelos" adjustable v-belting apart at any point with an ordinary screw driver, and then it shows the necessary steps to couple the belt together again without the use of any tools whatever. Illustrations show the procedure to be used in installing the belt on the drive.

Cameron Iron Works Announces Changes In Sales Personnel

Sam Pattillo, for the past five years Cameron Iron Works sales representative in Southwest Louisiana, has been transferred to the South Texas area. For the present he will be located at Alice. J. J. (Doc) McCann has recently joined the company's sales staff, relieving Pattillo, and will be located at Lake Charles. Another newcomer to the organization is T. J. (Buck) Buchanan, who recently completed a tour of duty with the "Seabees" on Guadalcanal. Buchanan will represent the company in the West Texas area, making his headquarters at Odessa.

Sam Pattillo

J. J. McCann

T. J. Buchanan

National Tube Company Makes New District

The Tulsa sales office of National Tube Company, subsidiary of United States Steel Corporation, has been converted into an independent district office. Prior to this change it had operated under the Dallas district. Earle E. Smith of Tulsa has been appointed district sales manager. With National Tube Company for twenty years, Smith has been field engineer in the Southwest during various periods since 1930. He was previously stationed in Tulsa from 1932 to 1934, returning to Pittsburgh as assistant superintendent of field work. In 1936 he became director of service. He was assigned to Tulsa in April of this year.

E. H. Pelser and B. F. Collyer will serve as assistants to Smith.

Petroleum Iron Works Company Not Making Heavy Plate Jobs

Prompted by a misunderstanding as to the type of product manufactured at the plants recently purchased from Petroleum Iron Works Company, at Sharon, Pennsylvania, and Beaumont, Texas, John Hauerwaas, president of the company, has issued the following statement:

"At one time Petroleum Iron Works made heavy bolted, riveted and welded tanks in addition to steel barrels, drums and pails. When acquired, however, only the latter three types of products were manufactured, facilities for fabrication of heavy plate work having been previously disposed of. These plants are manufacturing only steel barrels, drums and pails."

A. O. Smith Corporation to Supply Pipe for New Line

A. O. Smith Corporation, Milwaukee, has received an order for 900 miles of pipe for the pipe line to be built by Tennessee Gas & Transmission Company. The order amounts to approximately $10,000,000, and calls for 150,699 tons of 24-inch welded pipe of ¼-inch wall thickness.

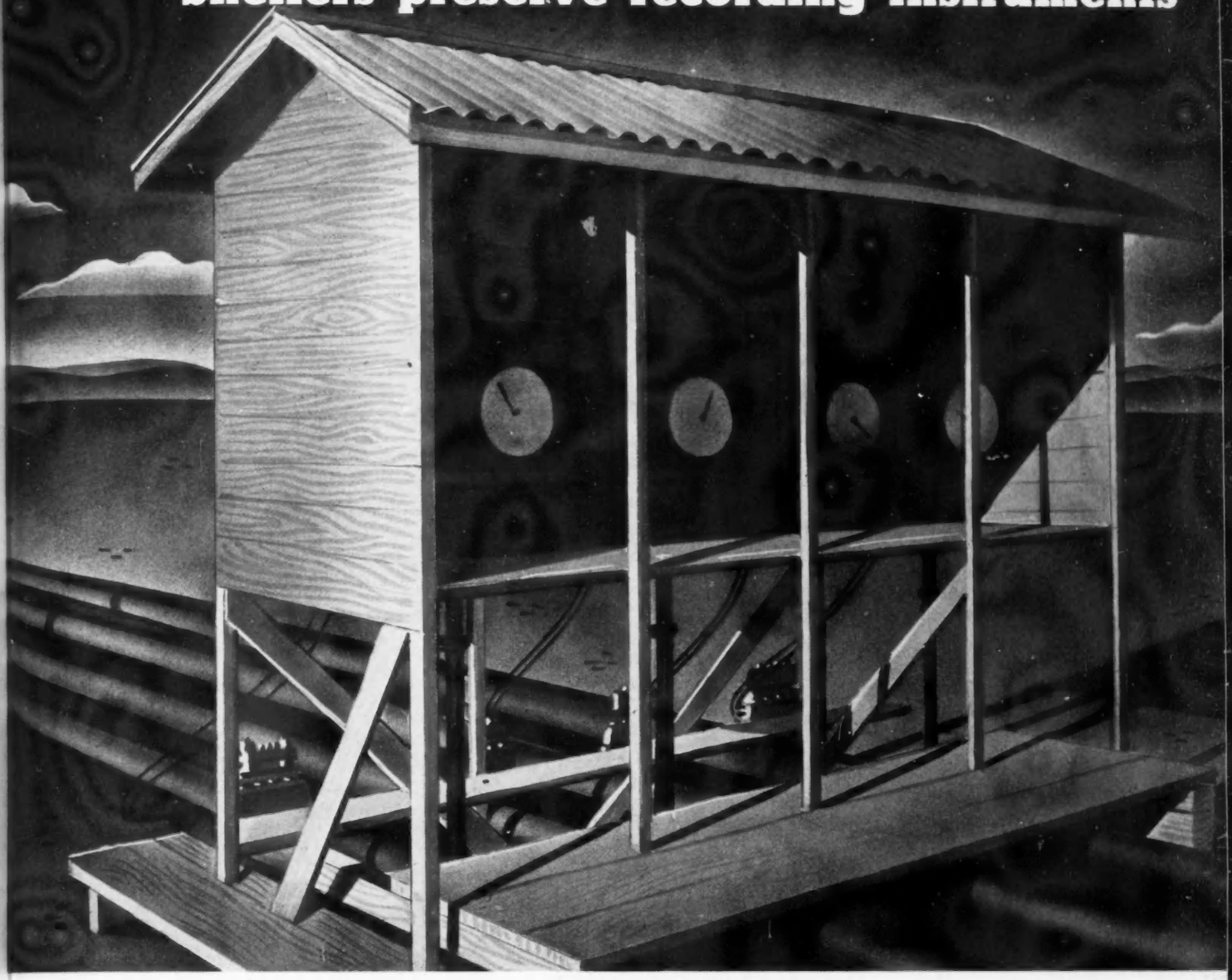
Question and Answer Bulletin On P-98-c Order

PAW district offices have for distribution a "Question and Answer" bulletin on P-98-c. The bulletin contains full information about the changes incorporated in the amended order.

Electronic Tubes

General Electric Company, Schenectady, New York, has issued a 24-page non-technical book titled, "How Electronic Tubes Work." It is designed primarily for industrial engineers. Illustrated with 117 sketches and photographs, the book is a primer whose main emphasis is on how the electronic tube operates. The eight basic types of industrial electronic tubes and their uses are described. The book, GEA-4116, is available free on request to Dept. 6-215, Publicity Divisions.

Shelters preserve recording instruments



Information supplied by the "Oil Weekly"

It should be obvious that every means possible should be used to maintain recording meters in service. It is even advisable when possible to increase the service obtained from individual meters by manifolding connections and staggering well flows.

One means of preserving meters, especially those installed outdoors, is to protect them with a shelter. The shelter can be portable, that is, it can be set across the flow lines, but not tied to them. This arrangement accomplishes two purposes. It encourages centralization of the meters. It protects them against wind, rain and dirt without interfering with either readability or servicing.

The actual construction of the shelter will be governed by individual circumstances. It can, for instance, be constructed of light lumber, with a galvanized or corrugated sheet steel roof. The main point is to so design it that the meters will be adequately sheltered from windblown rain and dust.

Such a shelter, protecting meters from radical changes in temperature from the sun's rays, has the added advantage of reducing pen servicing. It also improves the accuracy of readings because the temperature differential between the line and the metering device is reduced.

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Men in the Industry's News

FRANK A. WATTS, material director of PAW, has not resigned his position to return from Washington to private life as purchasing agent of Humble Oil & Refining Company November 1, as was reported recently. It is understood that top executives of PAW are requesting officials of Humble Oil & Refining Company to allow Watts to remain in his position at Washington at least for a few more months. Watts has done an outstanding job as director of materials for PAW and officials of PAW feel that he should remain on the job for some time more, it was said.

ALEXANDER H. CHAPMAN, in the foreign division of PAW at Washington, who will leave the bureau on January 1, will join the staff of Herbert Hoover, Jr., at that time. Chapman, formerly connected with European subsidiaries of Standard Oil Company (New Jersey), has spent much of his business life abroad.

W. A. LAMONS, Houston Gafford and J. E. Howard announce their association under the firm name of American Packing and Gasket Company. The address is 1806-12 Lyons Avenue, Houston 10, Texas.

B. L. THORNE, mining engineer with Osler, Hammond and Nanton, Ltd., managers for the Calgary and Edmonton Corporation in Calgary, Alberta, and former president of the Canadian Institute of Mining and Metallurgy, was re-elected president of the Alberta Petroleum Association at Calgary recently.

HARRY A. ERB has joined the staff of Worthington Pump & Machinery Corporation, as service manager of the Moore Steam Turbine division, Wellsville, New York. A graduate of Cornell University in 1928, his experience covers the servicing of steam turbines, electric generators and all related equipment.

E. L. DECKER, vice president of Martin-Decker Corporation, Long Beach, California, has been in Kansas, Oklahoma, and Texas recently.

DREW CORNELL has resigned from Continental Oil Company to go into business for himself. He was employed in various capacities in South Louisiana and East Texas. He will be associated with Fred W. Bates and Carl K. Mount as consulting petroleum engineer, at Lafayette, Louisiana.

HUMBLE OIL & REFINING COMPANY announces the following changes in personnel:

James D. Ball has been promoted to district superintendent, Kelsey field, Santa Elena, Texas.

Ben Palmo, tool pusher, has been transferred from Colorado to Armstrong field, Hebbronville, Texas.

Paul R. Wimberly, chief clerk of the Flour Bluff district, has been transferred to the Armstrong field, Hebbronville, Texas.

C. B. Mays has been promoted to chief clerk, Flour Bluff district, Flour Bluff, Texas.

Harold V. Wait, petroleum engineer, has been transferred from Livingston, Texas to Friendswood.

Jeremiah Ward III, has been transferred to Galveston Bay, Texas, as district petroleum engineer.

DR. GEORGE V. COHEE has been transferred from PAW to the geological fuels division of the United States Geological Survey, to work on a special project dealing with further petroleum possibilities of the Michigan basin. Before entering the government service he had been assistant state geologist of Indiana, from 1941 to 1942, and had previously been a member of the staff of the oil and gas division of the Illinois Geological Survey for eight years.

TOM W. KOCH, senior geologist for Standard Oil Company of Texas in West Texas and an employe of the company and affiliated units for 15 years, has resigned to become assistant district geologist for the Superior Oil Company of California's Midland branch. Prior to the West Texas assignment Koch spent 7 years in Arabia and in the Dutch East Indies. He was recently elected president of the Midland Geological Society.

H. B. HURLEY, production superintendent of the West Texas-New Mexico division of Continental Oil Company with headquarters at Fort Worth, has been promoted to regional superintendent under a revised setup to facilitate the company's expanding operations. H. L. Johnston, former assistant to Hurley, has been transferred to Midland as superintendent of the West Texas-New Mexico division, and George F. Beekman, Wichita Falls

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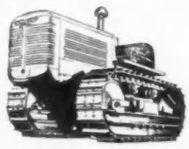

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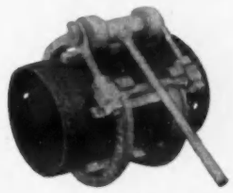
An efficient clamp which holds the two ends of pipe together while welding. Designed by engineers and used by pipe line contractors and oil companies everywhere. Clamps are adjustable. Sixteen sizes, for 2" pipe up to 24".



A complete line of oil field and industrial equipment including

dirt-moving machinery, concrete mixers, wheelers, tampers, motor graders, welding dollies, chains, jacks, belt slings, hand rugs, air compressors, shovels, pavers, graders, pipe cradles, boomers, blocks, pipe straighteners, machine rugs, canvas paint rugs

and all types and sizes of wire brushes.

TAMPICO BRUSHES

C. M. "FAT" MULLINS . . . PIPE LINE REPRESENTATIVE

The Clarence L. Boyd Co. Inc.

TULSA, OKLAHOMA . . . PHONE 8191 **GUTHRIE, OKLAHOMA . . . PHONE LD 1**

WISCONSIN *Air-Cooled* ENGINES

Check

FOR STAMINA AND POWER *on Your Equipment!*

You want horsepower . . . yes. But over and above that you *must* have STAYING POWER. You get both in Wisconsin heavy-duty air-cooled engines. There's plenty of stamina here for slugging away, day in and day out, on those tough jobs that must be licked on schedule. Wisconsin heavy-duty design and construction can "take it".

MOST POWER PER POUND

WISCONSIN MOTOR Corporation

MILWAUKEE, WISCONSIN, U. S. A.

World's Largest Builders of Heavy-Duty Air-Cooled Engines

WRITE TO **HARLEY SALES CO.**

510 ATLAS BLDG., TULSA, OKLA.
M & M BLDG., HOUSTON, TEXAS.

OIL FIELD DISTRIBUTOR FOR WISCONSIN ENGINES AND ALL TYPES OF UTILITY UNITS

GATX GENERAL AMERICAN

PLATE & WELDING DIVISION

PLANT AT SHARON, PA.

Victory

IS OUR ONLY JOB NOW

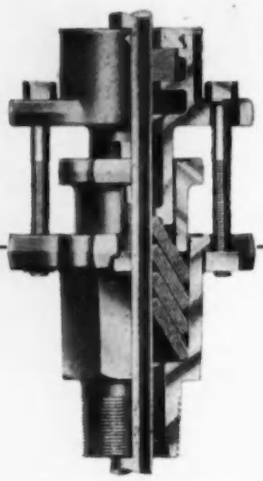
—but we're planning for YOUR post-war needs

- **Steel plate fabricators**
- **Manufacturers of Class 1 pressure vessels and all other classes of welding**
- **Complete X-ray and annealing facilities**
- **Completely equipped department for field erection**

Plate and Welding Division

GENERAL AMERICAN TRANSPORTATION CORPORATION

SHARON, PA.



STUFFING BOX

Save...

RUBBER • TIME • OIL!

Remember this . . . the ordinary conventional box will use 660 times as much rubber as a Hercules Cone Packed Box to get the same job done. This takes no account of time lost in innumerable shut-downs for repacking the ordinary box. Another thing, Hercules Cone Packed Boxes will not leak, even if well pumps off. Be practical . . . do YOUR part in America's War Effort, by saving rubber, time and oil . . . install a Cone Packed Box TODAY.

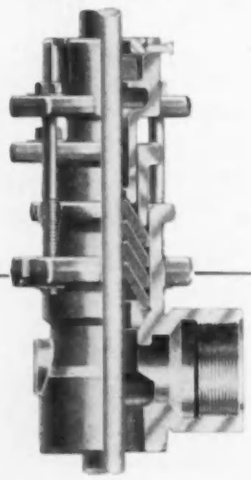
HERCULES TOOL COMPANY

MANUFACTURERS and DISTRIBUTORS of OIL WELL SPECIALTIES

1073 N. OWASSO ... P. O. BOX 286 ... TULSA

OKLAHOMA

STUFFING BOX - TEE



district superintendent, will have charge of the North Texas-Panhandle division. Roy H. Smith, former assistant to Beekman, will be the Wichita Falls district superintendent, with C. R. Graham, former Nocona district foreman, as assistant. Graham is succeeded by F. M. Ledbetter, who was at Electra. Meyer Dubrow, former division engineer, will be regional engineer of the Fort Worth office. R. M. Hunter, chief clerk in the production and drilling department of the company's Ponca City headquarters, will be moved to Fort Worth as assistant to Hurley.

DON R. GEARHART has been placed in charge of southern division land office established by Sinclair Prairie Oil Company at Fort Worth. He will have supervision over geophysical, geological, land and scouting activities of the company in North Louisiana, South Arkansas, New Mexico and all of Texas, except the east portion of the Northern district, which is under the direction of the Ardmore, Oklahoma, office. The company will continue to maintain district offices at Amarillo, Wichita Falls, Tyler, Houston and Corpus Christi. Gearhart has been with the company 23 years, and formerly was located at Tulsa.

A. J. BAUERNSCHMIDT of Magnolia Petroleum Company addressed the Houston Geological Society, November 4, on "West Ranch, Jackson County, Texas." He has made a comprehensive study of the field.

HERMAN YARAS, formerly president of Marsman Trading Corporation in the Philippines, has formed the export-import company of Herman Yaras in Los Angeles. The new company will occupy itself primarily with development of distribution contracts in Central and South America and the Far East. Trade arrangements have been completed with Mexargo, a large trading company in Mexico City which has distributing facilities in Mexico and other Latin American countries. Yaras himself has lived in 26 countries and has developed markets for a number of American products and supplies.

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The OIL WEEKLY

OIL and GAS ENGINEERING — INTERNATIONAL AUTHORITY FOR THE PRODUCING AND PIPE LINE INDUSTRY — THE WEEK'S NEWS INTERPRETED

HEAVY ARTILLERY FOR THE WAR PRODUCTION FRONT

READY ...TO SERVE YOUR NEEDS FOR NORDSTROM VALVES

We have made tremendous progress on our backlog of orders and within a few weeks, if not by the time this message appears, we will be largely in the clear on critical steel valves. We will then have open capacity to handle new steel valve business in the sequence received, subject, of course, to the priority rating assigned.

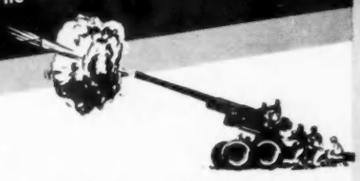
NEED VALVES AT ONCE? Right now we have available manufacturing facilities that are not suited to the production of steel valves and we can effect immediate stock delivery of Nordstrom Semi-Steel Valves in certain sizes and figure numbers.

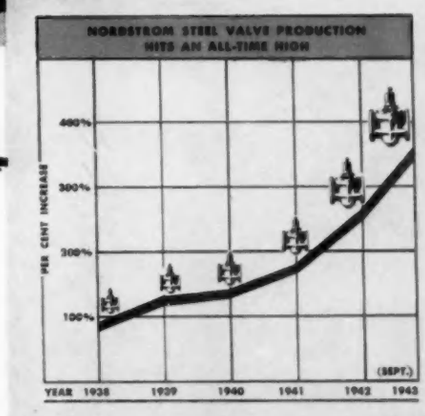
AIM ...YOUR SIGHTS NOW ON LATE 1943 AND FIRST QUARTER 1944 CONSTRUCTION

Those booking orders now, in anticipation of late 1943 and early 1944 valve requirements will have first call on our facilities. Immediate action on your part is desirable so that we may establish firm delivery dates based upon amply foreseen needs for materials and carefully predicated manufacturing schedules.

FIRE ...YOUR INQUIRIES AND ORDERS AT US

We can handle your immediate business in many lines and orders for Nordstrom Valves of any type can be accepted with excellent prospect of delivery within a maximum of ninety days after receipt of firm specifications. (The WPB lead factor for cast steel valves is 90 days.)





Merco Nordstrom Valve Company, in common with the entire valve industry, is emerging from a very trying period. Earlier this year the need for valves in vital wartime industries greatly exceeded all available facilities. Nordstrom was ordered to produce 600% over normal capacity during a short period and then was confronted with shortages ranging from man-power and machine tools through storage facilities and materials. These handicaps, we are pleased to report, have now been largely eliminated—thanks to a realization on the part of the War Production Board of the indispensable and unique position occupied by Nordstrom Valves.

Our tonnage of cast steel Nordstrom Valves has shown a progressive increase month by month. Our plant capacity is now geared to a production rate never before attained in our history. We know of no other valve company that has had a greater load thrust upon it or has used more vigorous efforts to satisfy the demands of their customers.

Out of all this has come a stronger, more integral Nordstrom organization—one capable of handling the immediate needs of today and with adequate post-war facilities to service an increasing circle of Nordstrom Valve users.

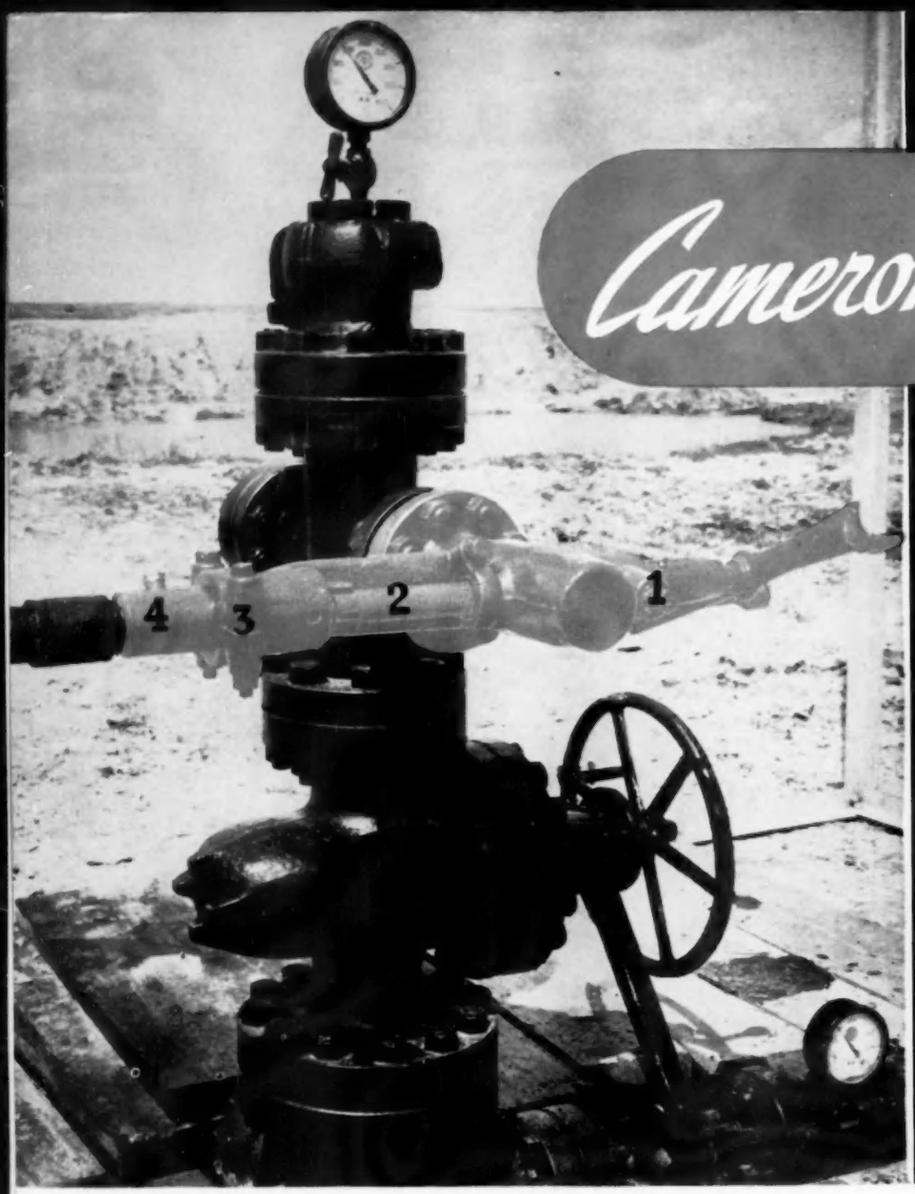
NORDSTROM VALVES

KEEP UPKEEP DOWN

MERCO NORDSTROM VALVE COMPANY, *a Subsidiary of Pittsburgh Equitable Meter Co.*

Main Office: Pittsburgh 8, Pennsylvania

Branches: Boston • Buffalo • Brooklyn • Chicago • Columbia, S. C. • Houston • Kansas City • Los Angeles • Memphis • New York • Oakland • Seattle • Tulsa • San Francisco



Cameron Flow Wings

MAKE YOUR TREES

Lighter
Stronger
MORE
Economical

Note the absence of conventional wing valves in this Cameron 6,000 lb. test Safety Xmas Tree installed in the Stowell Field, Jefferson County, Texas.

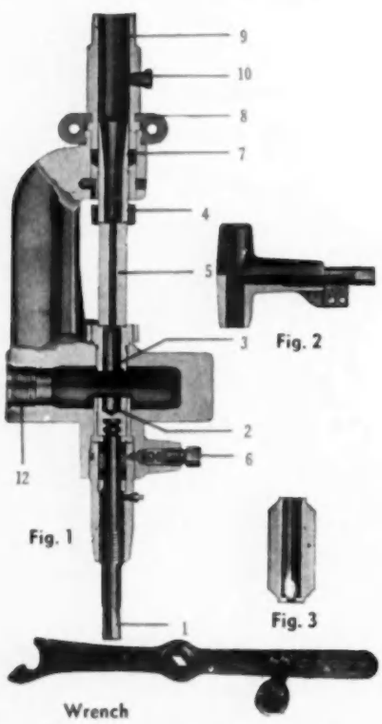


Fig. 1

Fig. 2

Fig. 3

CROSS-SECTION VIEW OF A CAMERON TYPE "D" FLOW WING

LIGHTER because the unique design of the Flow Wing combines all essential wing fittings in a single compact unit. Unlike conventional assembled wings, there are no heavy flanged connections between component parts of the flow wing, no choke nipples or choke housings, and the valve section of the unit obviates the need for conventional valves in the flow wing.

STRONGER because the Cameron Flow Wing is a one-piece steel casting whereas conventional wings consist of several fittings assembled with flanged or screwed connections.

MORE ECONOMICAL because it obviates the need for a conventional valve in the flow wing (eliminates two valves in double wing trees).

EASY TO OPERATE

Referring to Figure 1 at left, to change flow bean fit hexagon socket in wrench to valve stem (1) and close valve (2) against seat (3). Spanner part of wrench is then applied to clamp screw (4), and only two turns required to release flow bean (5). New bean is clamped in place by clamp screw and valve is then opened and well is back on production. Both valve stem and valve seat are faced with hard metal to resist cutting. Valve stem and bonnet are packed with plastic packing which may be replenished under pressure. Clamp screw is packed with an asbestos ring (7) which is tightened automatically as flow bean is clamped in place. Two-bolt union (8) obviates need for additional union in flow line. Note that downstream end of clamp screw is belled to reduce turbulence and cutting. Three types of flow beans are interchangeable: (1) "Proration" bean illustrated in flow wing; (2) adjustable flow bean, Figure 2; and (3) "production" type bean which consists of a body and renewable stellite orifice disc, Figure 3. All flow beans clamp in position as shown in Figure 1.

Cameron Flow Wings are offered in several screwed and flanged styles, ranging up to 10,000 lb. test. Like any standard fitting or valve, they may be incorporated in any manufacturer's Xmas tree.

CAMERON IRON WORKS, INC.

711 MILBY ST., HOUSTON, TEXAS

Export: 74 Trinity Place, New York, N. Y. *California:* The Howard Supply Co., Los Angeles. *Rocky Mountain:* Mountain Sales & Service, Casper, Wyoming.